
User's Manual

Stitch
ERA
VERSION 17

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Editorial

Welcome

Thank you and congratulations for choosing a product from our multi-decoration for garments suite DESIGN ERA. We have put our best effort developing this product, as we have been doing for the last 20 years, to always offer you the most advanced and competitive system on the market.

We hope you enjoy it.

About this Manual

DESIGN ERA is a multimedia garment decoration software product. According to the software configuration, it includes a full featured embroidery design system and a full featured rhinestone & sequin design system (hotfix type).

DESIGN ERA allows you to create impressive designs quickly and easily. The advanced user interface, unique in the market for this kind of product, is based on contextual ribbons that displays, all the time, just the tools you need to work with the selected object, no matter it is a raster image, a vector graphics, an embroidery or a hotfix object.

We suggest to any user to read the whole manual, starting with the first chapters where most of the concepts are explained. This way will earn time to learn the software.

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Chapter 1

Stitch Era Basics

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Starting Stitch Era

When you start Stitch Era from the desktop shortcut icon or from the programs list of the start menu you can see the software splash screen. If it is the first time you run the application, the welcome screen will appear as shown in the picture on the right, showing the legal notes at the bottom. Take a couple of minutes to read it, and if you agreed with the terms and conditions of the license, click 'Yes, I accept' to complete the *Stitch Era* load.



Check the “Please, do not ask again” box, if you want to skip this step the next time you run the program.

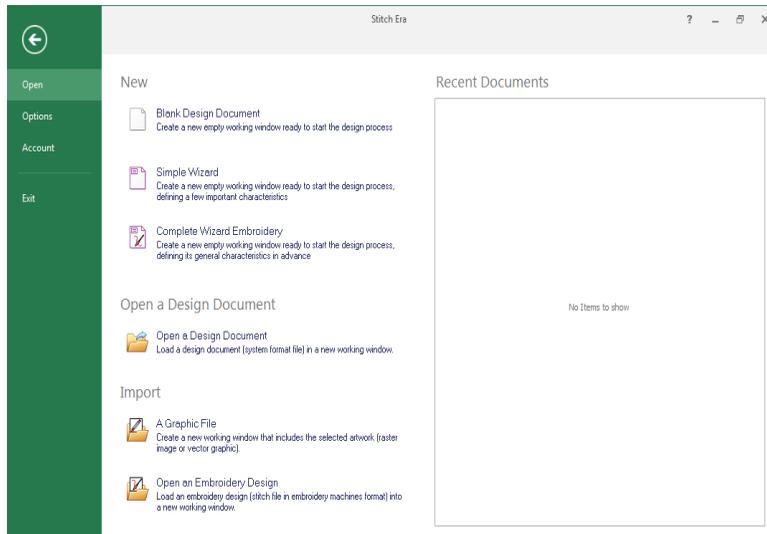
This chapter will explain how the available tools are organized (i.e. how to navigate within the program).

Once the program is loaded, the first screen is displayed. This is the “File-Open” page.

On the left panel you will find functions like Open, Options and Account.

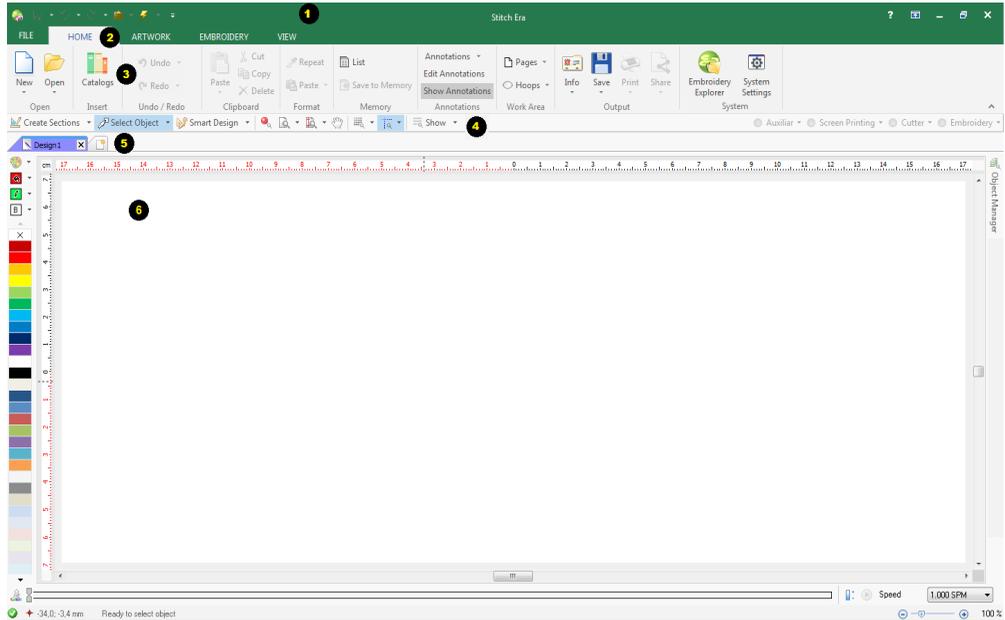
The other functions, like Save, Info and Print, will become available in this tab as soon as you open a file on screen.

Click on each function to show the available commands on the right panel, grouped by sections.



On the far right you have the recent opened documents: Double clicking on any one will open it on the workspace (The first time you enter the software, this list is empty).

It is very important to recognize each part of the program screen. To do so, on the “File-Open” tab, under the “New” section, click on “Blank Design Document”.



- (1) On the top of the screen is the TITLE BAR. That bar shows the application’s name (Stitch Era) and it may also show small buttons, which are shortcuts for several program functions. This is the Quick Access Toolbar.



It contains very frequent used commands like Save, Undo/Redo, Clipboard (Cut, Copy, Paste and Delete) and Generate.

This handy element is always visible and avoids you to switch ribbon tabs or access the Application menu for accessing these commands.

- (2) Below the TITLE BAR, is the TABS BAR. That bar shows the names of groups of thematic functions. You will find the tabs FILE, HOME, ARTWORK, EMBROIDERY, and VIEW.
- (3) Below the TABS BAR is the RIBBON BAR. That bar shows the available tools for the selected tab (group name). When the tab is changed, the ribbon changes accordingly.
- (4) Below the RIBBON BAR you will find a bar which we will call AUXILIARY BAR where you have some useful functions handy like Create Sections; Select Objects; Smart Design;

Zoom tools; and some visual aids like guidelines, grid and subgrid; object guides and hide/show commands. On the right side of this bar there are some tabs to show/hide/block different design layers (Auxiliar; Screen Printing; Cutter; Embroidery).

- (5) Below the previous bar is the DOCUMENT BAR. This bar also includes tabs. Each tab represents a document (a design) and has a different color.
- (6) Below the DOCUMENT BAR is the WORKSPACE. When a document tab is selected, this space is the area where the design is displayed.

Walking around the User Interface

Before learning each part in detail, let's navigate around the program for a while, in order to understand the program organization and make it easier to find the tools.



Click on the tab NEW DOCUMENT of the document bar.
Several things occur:

The screenshot shows the Stitch Era software interface. At the top is a green ribbon bar with tabs for FILE, HOME, ARTWORK, EMBROIDERY, and VIEW. The HOME tab is selected, showing various tool icons. Below the ribbon bar is a document bar with a tab labeled 'Design1'. The main workspace is a grid with a vertical axis on the left and a horizontal axis at the top. The vertical axis is labeled from 0 to 7, and the horizontal axis is labeled from 12 to 32. A color palette is visible on the left side of the workspace.

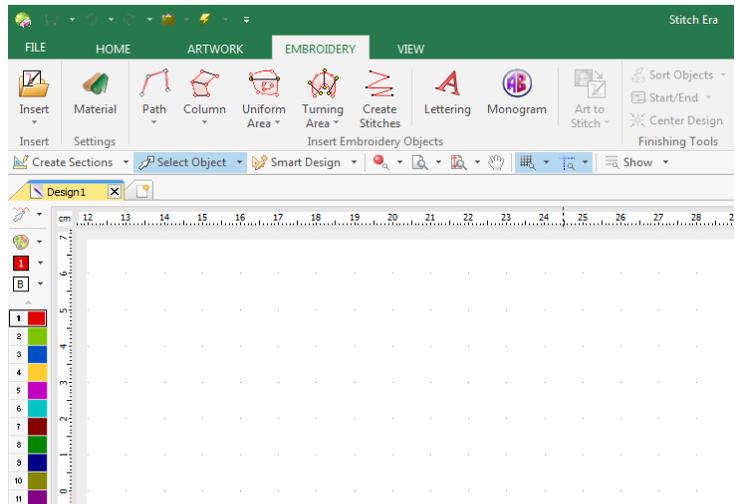
A new design document is created (name Design1)

An empty workspace is displayed

All tabs appear in the tabs bar (HOME tab is selected)

The ribbon bar shows the tools/functions of the HOME group

Click on the EMBROIDERY tab and see how the tools / functions of that group appear on the ribbon bar.



The selected tab of the DOCUMENT BAR is the current design document (or active design).

The active design is graphically displayed in the workspace.

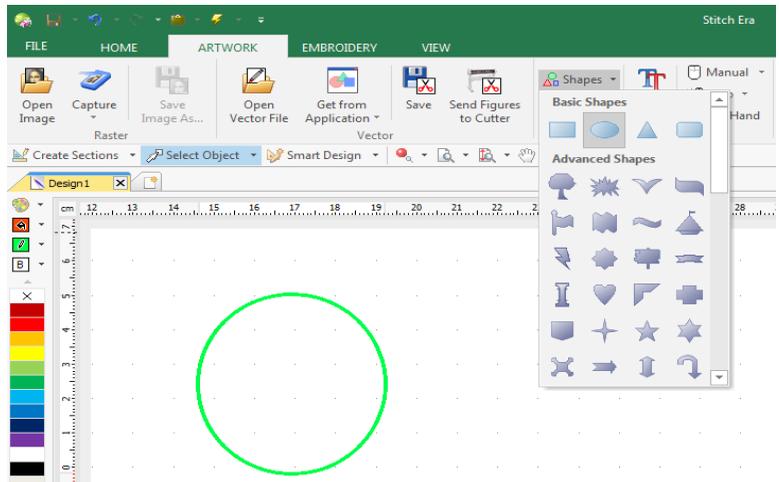
These are not the only available tabs of the TABS BAR. According to the activity (design creation, editing, etc) new CONTEXT BARS may appear.

As an example:

Click on the Artwork tab

Click on the Shapes tool and select a basic shape (circle).

Click on any place of the workspace and (without releasing the mouse button) drag the mouse to other position and then release the mouse button.

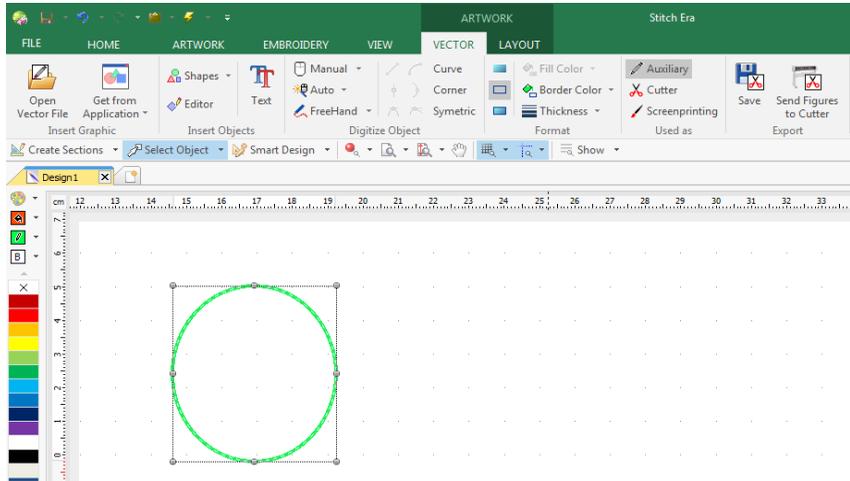


You can see that:

A circle (geometric shape) was created.

That shape is selected.

New context tabs are available (Vector, Layout) with more tools/functions available. Those tools/functions will apply to the selected shape.



This was only an example of how context tabs become available according to the activity and according to the selected objects. The same concept will apply to Embroidery objects. The tools are well organized and become available when required.

The FILE tab

Let's continue with the FILE TAB.

In the File-Open group you will find three different sections:

New, Open, Import.

Inside the "New" section you have the commands to create a new design document:

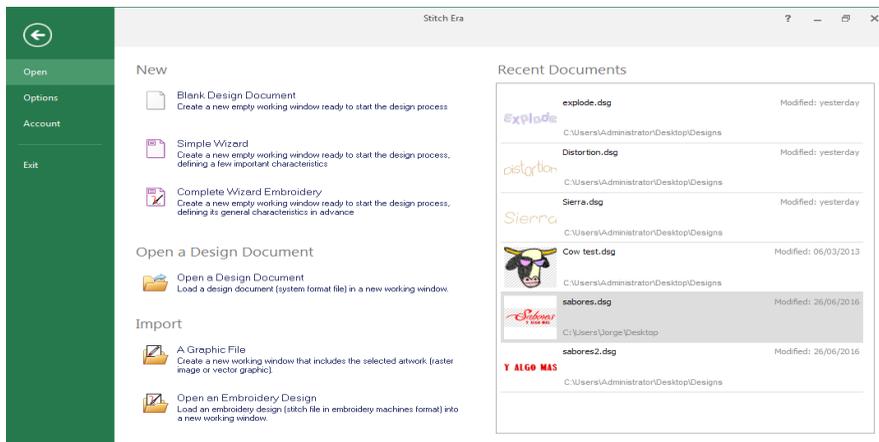
Blank Design Document; Simple Wizard; Complete Wizard Embroidery and Complete Wizard Hotfix.

Inside the "Open" section you have the command "Open a Design Document".

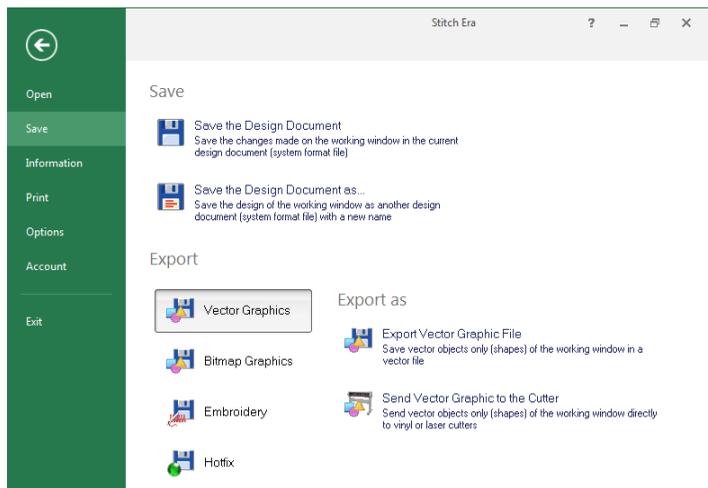
Finally, inside the "Import" section, you have the commands:

A Graphic File; Open an Embroidery Design (to open a design which is in machine format).

On the far right you will find the samples of the recently opened documents, which a little thumbnail and the physical location of the file.



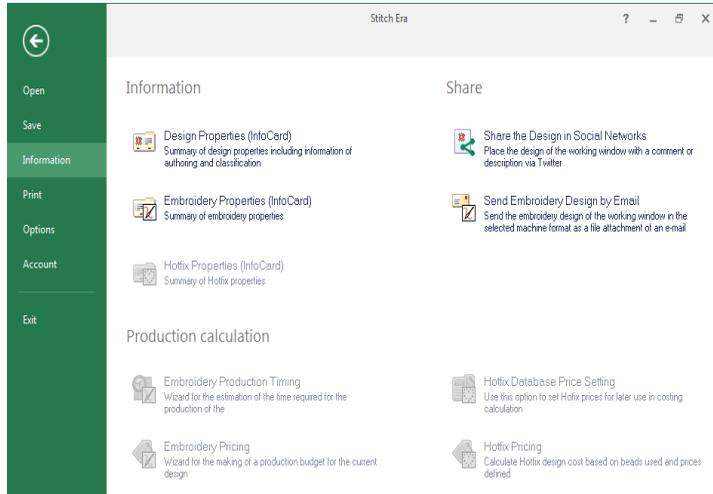
Section FILE-SAVE includes functions to save (store) the active design (current design document) in the system native format: “Save the Design Document” and “Save... as”; and / or export the design (Vector, Bitmap or Embroidery) in any compatible machine format, send the active design directly to the machine for production, etc.



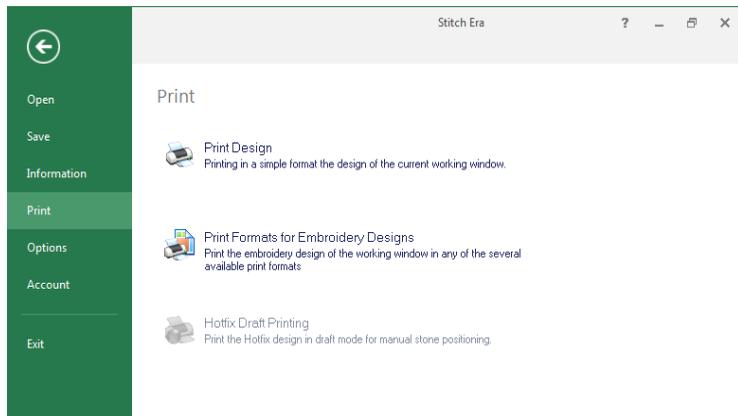
Section FILE-
INFORMATION includes
several functions related
to the properties of the
active design (Infocard);
also

allows you to Share your
design in Social
Networks, or attaching it
to an e-mail;

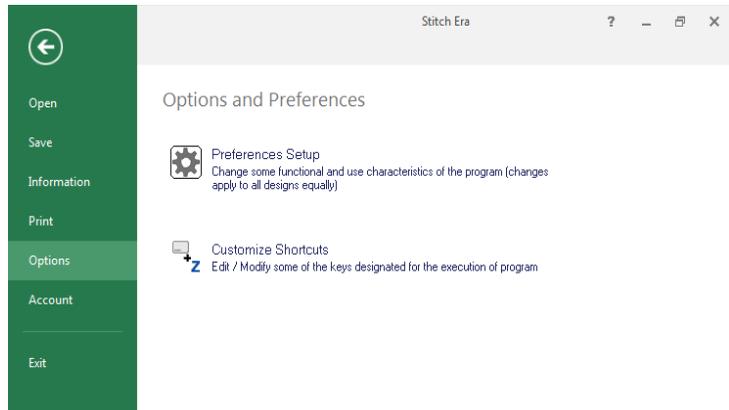
and lets you make
estimates of embroidery
pricing and production
(optional features)



Section FILE-PRINT
includes several
printing functions for
Embroidery designs.



Section FILE-OPTIONS includes functions related with the setting of the software application (it is not related with the active design itself).

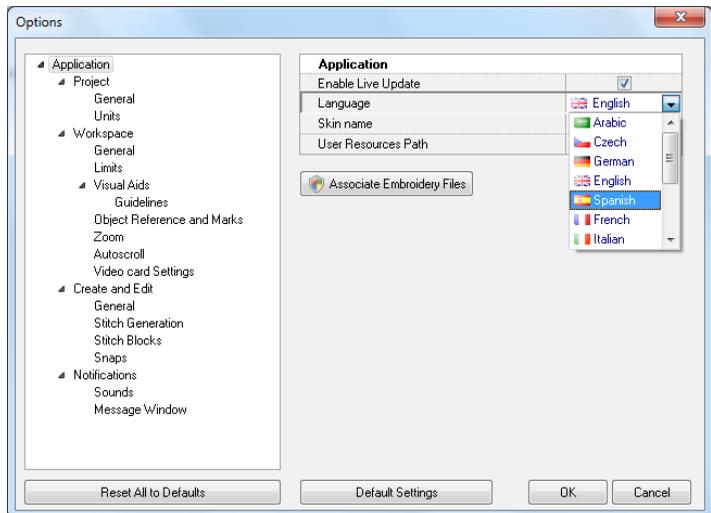


We will see these in detail in Chapter 2.

Probably this is a good time to select the language of this application, if you prefer to change it. Click on “Preferences Setup”. A dialog box will open.

On the left panel, click on the Application group.

The right side will show the contents of it. Click on Language to unfold a list of available options. Then choose the selected option from the setting list (right side).

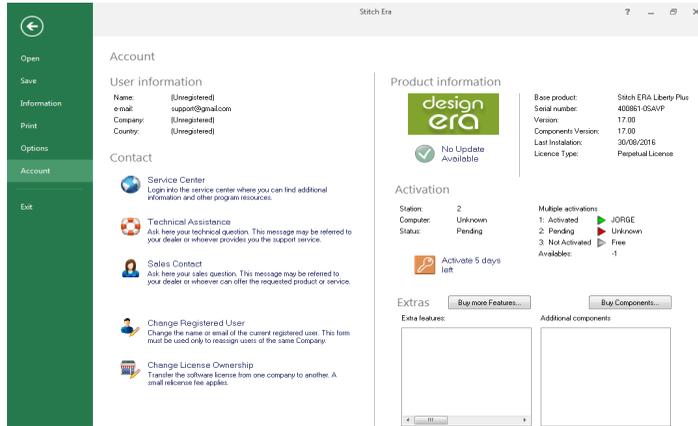


This function will require to exit the program, and restart it.

There are several aspects of the user interface and system behavior you may configure according to your preferences. The Options box groups all the configurable items in Stitch Era.

Let's return to the FILE tab, last section.

Section FILE-ACCOUNT includes the information of the licensed software product, activation status, registered user information and Contact links.



Up to here we have described the basics of the user interface. Following sections will explain mentioned parts with more detail.

Artwork Tab Tools, organization



Click on the tab NEW DOCUMENT of the document bar.

- A new tab will be created (Design1) in the document bar,
- The workspace (active design) is empty.

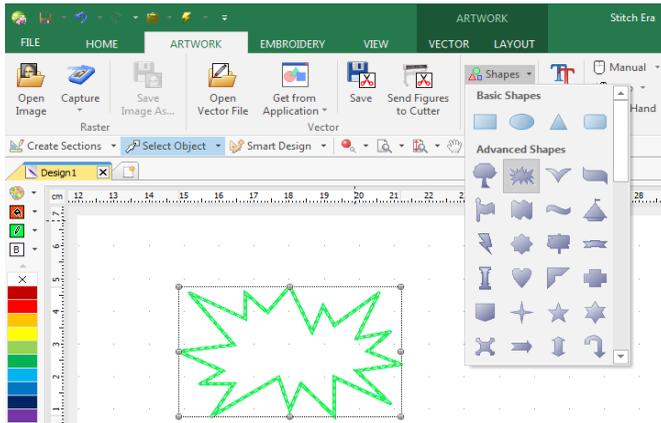
Click on the ARTWORK tab.

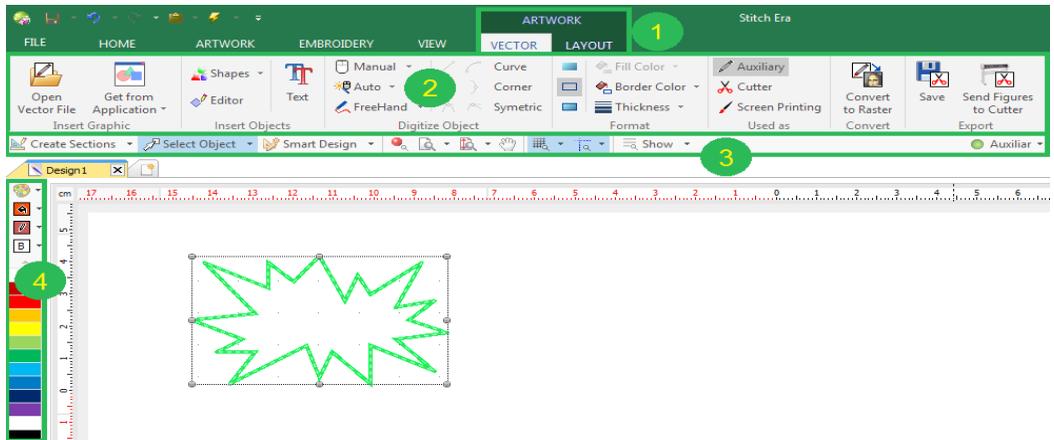
The MAIN ARTWORK TAB (and main artwork ribbon bar) will appear on screen.

Click on the Shapes tool and select an Advanced Shape.

Click on any place of the workspace and (without releasing the mouse button) drag the mouse to another position and then release the mouse button.

The corresponding shape will appear on the screen.





ARTWORK

Artwork is the part of the design document which includes the set of graphic elements of the design (raster images or vector graphics). In the example above, only the created vector object is the artwork of our design.

ARTWORK CONTEXT TABS (1)

More tabs are visible in the tabs bar. The new tabs are context tabs because they depend on the current activity of the program. As we are working with Vector Artwork (graphic shapes / figures), then related (or context) tabs are available: VECTOR and LAYOUT.

ARTWORK RIBBON BARS (2)

When you select each of those context tabs, the ribbon displays all the related functions grouped in sections. The functions will apply to the object selected on the workspace. In this moment you are able to edit any of the vector objects present on your design or create more vector objects. These functions will be explained later.

ARTWORK AUXILIAR BAR (3)

Below the RIBBON BAR you will find a bar which we will call the AUXILIARY BAR where you have some useful functions handy like Create Sections; Select Objects; Smart Design; Zoom tools; and some visual aids like guidelines, grid and subgrid; object guides and hide/show commands. On the right side of this bar there are some tabs to show/hide/block different design layers. The first led, Auxiliar, corresponds to the image/s you have on screen.

ARTWORK COLOR BAR (4)

On the left of the workspace, a vertical toolbar shows some tools related to the color palette of the artwork and other tools.

If you want to set the color to create an object, or edit (modify) the color of an existing object, you can press the left mouse button on any color of the color palette to set the fill color (area) and/or the right mouse button to set the border color (line).

If you want to change the color palette (colors displayed on the left of the workspace) you can set each color with the color palette function (there is a palette icon) in the artwork color bar.

These functions will be explained later.

The same concept of new context tabs with related functions in the ribbon bars apply to Embroidery objects. The tools are well organized and become available when they are required.

Embroidery Tab Tools, organization

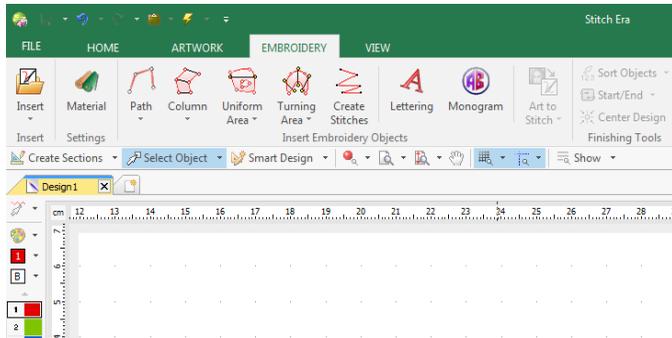


Click on the tab NEW DOCUMENT of the document bar.

- A new tab will be created (Design1) in the document bar,
- The workspace (active design) is empty.

Click on the EMBROIDERY tab
The MAIN EMBROIDERY TAB
(and main Embroidery ribbon bar)
will appear on screen.

There are many embroidery
tools. At this time we will only
show how to use one of them.

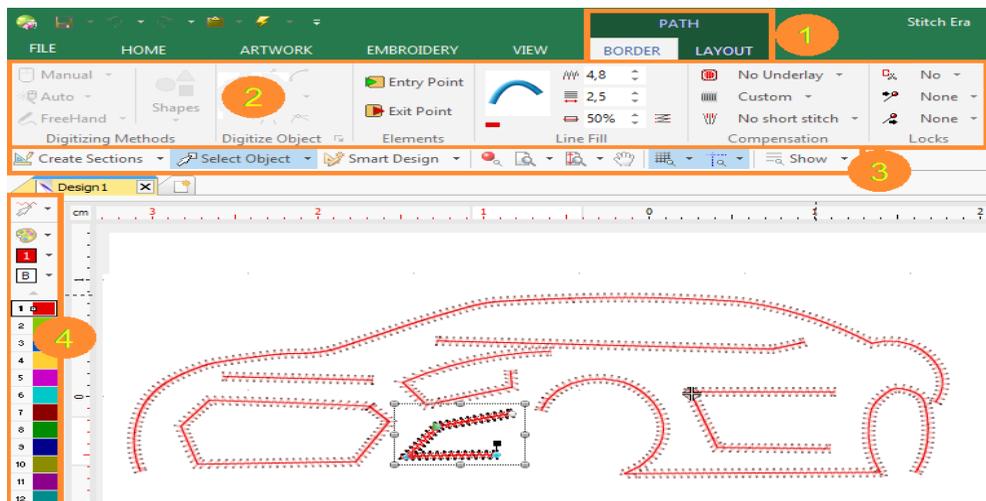
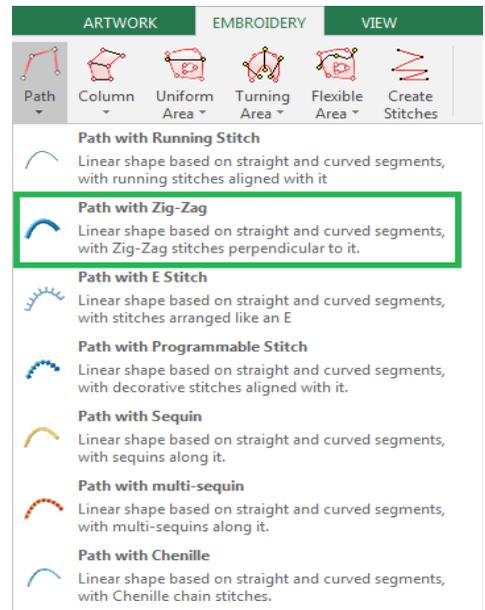


Let's create a path with zigzag stitches.

To do so, on the Insert Embroidery Objects group, click on Path (input method) and select Zig-Zag from the list of stitch styles.

Note: as you can see in the right capture, Stitch Era has a huge set of tools (among others, many input methods and stitch styles) but they may be not available in all software products (or software levels).

The official website offers information about the features available in each software product.



Click (mouse left button) on several points of the workspace. You can have open or closed objects. To close an object, simply locate the last point above the first point. The system will close the path automatically. To close it manually, you can either press the Enter Key or click the mouse center button. This will confirm the embroidery object and generate the corresponding embroidery stitches.

EMBROIDERY

Embroidery is the part of the design document which includes the embroidery objects and the stitches (and other Embroidery specialties). In this case, only the created embroidery objects conform our embroidery design.

EMBROIDERY CONTEXT TABS (1)

More tabs are visible in the tabs bar. The new tabs are context tabs because they depend on the current activity of the program. As we are working with Embroidery, then related (or context) tabs are available: BORDER and LAYOUT.

EMBROIDERY RIBBON BARS (2)

The context ribbon bar shows the group of functions of Embroidery + Path input method + Zigzag stitches (in this case). There are many many context ribbon bars as there are many input methods and stitch styles. The functions will apply to the embroidery object selected on the workspace or the new embroidery object under construction. These functions will be explained later.

EMBROIDERY AUXILIAR BAR (3)

Below the RIBBON BAR you will find a bar which we have called AUXILIARY BAR where you have some useful functions handy like Create Sections; Select Objects; Smart Design; Zoom tools; and some visual aids like guidelines, grid and subgrid; object guides and hide/show commands. On the right side of this bar there are some tabs to show/hide/block different design layers. The Embroidery led, corresponds to the embroidery object/s you have on screen.

EMBROIDERY THREADS BAR (4)

On the left of the workspace, a vertical toolbar shows some tools related to the embroidery thread palette and other tools.

If you want to set the color to create an embroidery object, or edit (modify) the color of an existing object, you can press the left button of the mouse on any color to select that color/thread.

If you want to change the thread palette (thread/colors displayed on the left of the workspace) you can set each thread/color with the thread palette function (there is a palette icon) in the embroidery threads bar.

These functions will be explained later.

Understanding Working Modes

There are 4 main working modes:

- Design Creation
- Object Editing
- Smart Design
- Expanded Editing



There are three buttons below the ribbon bar and one on the left toolbar which are associated to each working mode.



1. Design Creation
2. Object Editing
3. Smart Design
4. Expanded Editing

Design Creation

Also known as Digitizing or Object Creation.

In this working mode, users are able to insert many objects in the design.

There are many kind of objects. In Stitch Era we classify them in 2 types:

- Graphic/Vector Objects
- Embroidery Objects

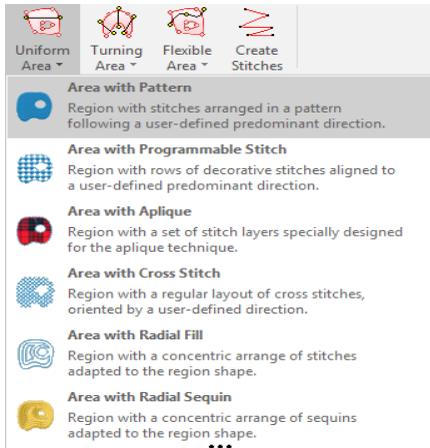
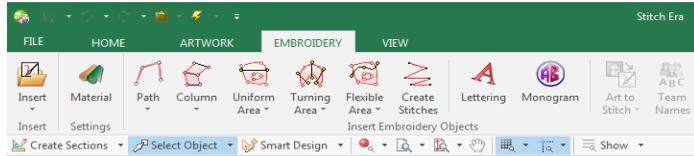
Example:



Create a **new design** document as described previously

Select the EMBROIDERY tab.

The program will show the MAIN EMBROIDERY ribbon bar.

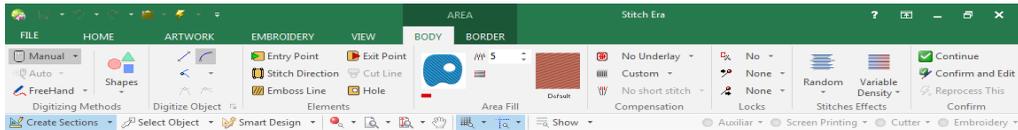


On the Insert Embroidery Objects group, click on: **Uniform Area**

The program will unfold the list of available Stitch Styles.

Select the Stitch Style:
Area with Pattern

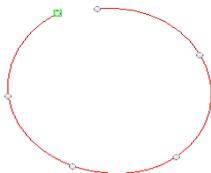
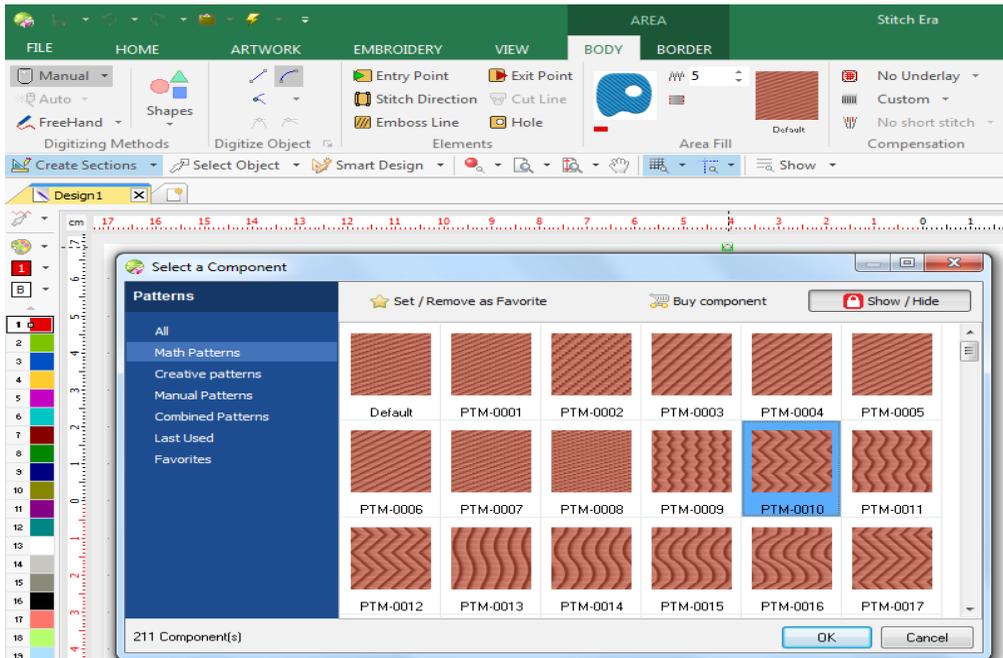
The program will show the ribbon bar Area with Pattern



Click on the small arrow on the right of “Manual” (group Digitizing Methods), and select Arc Nodes.

Click on the Curve function (group Digitizing Object)

This is the time to adjust all the properties of the ribbon bar. That adjustment will apply to the objects we are creating. Click on the pattern sample (in this case Default) and select a different pattern. Press OK to confirm.



In the workspace, left click the mouse several times in different positions (each mouse click adds a node to the object you are building), creating a circle (or any other shape). The last click (over the first node) must close the shape.



Finally, press the Enter key (or mouse center button) to confirm the created object.

The program will automatically generate the stitches.

Now you can click on the MAIN EMBROIDERY tab and start creating a second embroidery object of any kind.

Different ways of selecting the same command.

At the time to access a command to perform any task (like set a view, select a tool to create or edit an object, select a mode, etc.) you have several options to choose from:

- 1- Use the Ribbon bar or Quick Access toolbar.
- 2- Use the context menu
- 3- Use the controls located at the side or auxiliary toolbar
- 4- Use a keyboard shortcut

Although not all commands are available with all methods, mostly are available with more than one and all of them are available with the first method.

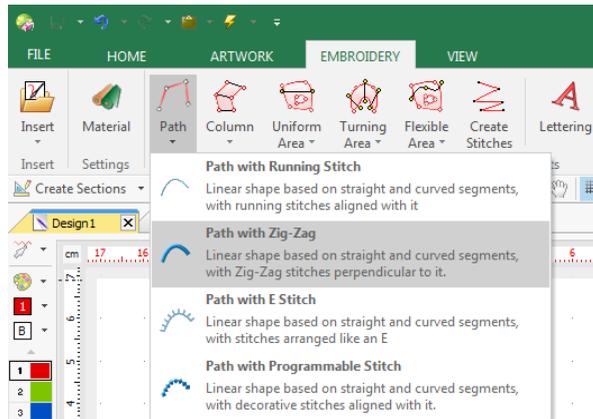
The Ribbon, Quick Access toolbar, and other complementary tool bars were mentioned previously, in this chapter.

The Context Menu is a special menu that appears when you click the mouse right button. As its name indicates, it's contextual, that is, the commands and options displayed within it depend on the type of object currently selected or the panel or screen area located under the mouse pointer, when the right button is clicked. Context menus are very useful because they let you select commands without moving the mouse pointer away from the region you are focused on.

Different ways of selecting the same object kind.

You have several ways of enabling the same Embroidery creation tool object:

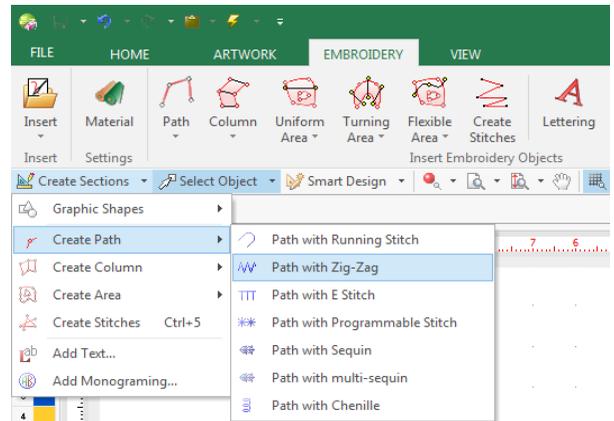
- 1 Selecting the main Embroidery Tab, then selecting the Object Type (from the Insert Embroidery Objects group) and finally choosing the Stitch Style, from the list of available ones, as it was previously explained.



- 2 Selecting it from the *Create Sections* button.

Click on the small arrow on the right of the *Create Sections* button.

Then select the object type and stitch style to use from the pop-up menus.

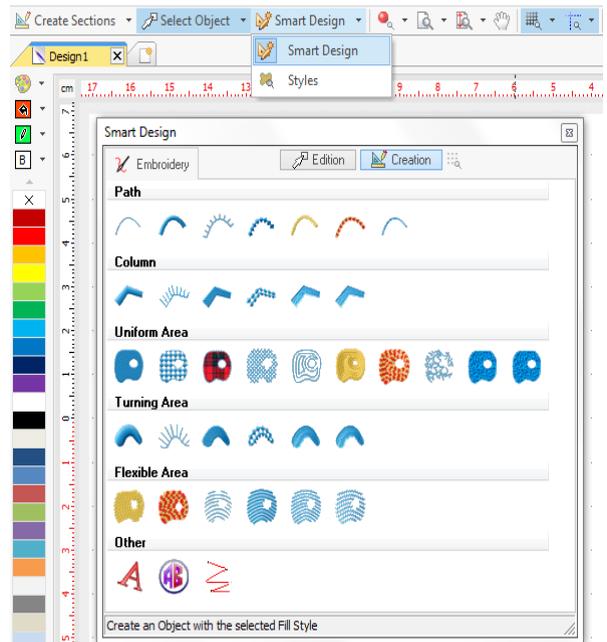


- 3 Selecting it from the *Smart Design* tool.

Click on the *Smart Design* button.

On the window that opens, click on the *Creation* tab.

Then select the object type and stitch style to use from the available ones.



Digitizing Modes:

Up to now we have used only the manual digitizing mode (click node by node). There are some details you must know about this digitizing mode, which will be explained later on. Apart from the manual digitizing mode, there are other digitizing modes.

Next you have a list of all the modes available in your software (they may vary according to the software product / level).

- Manual Digitizing (arc curves, bezier curves)
- Automatic Digitizing (auto-trace, auto-complete, etc.)
- Geometric Shapes (regular shapes, auto-shapes)
- Free Hand Digitizing

We will refer to these modes on the next chapters.

Conclusion. Important Concepts:

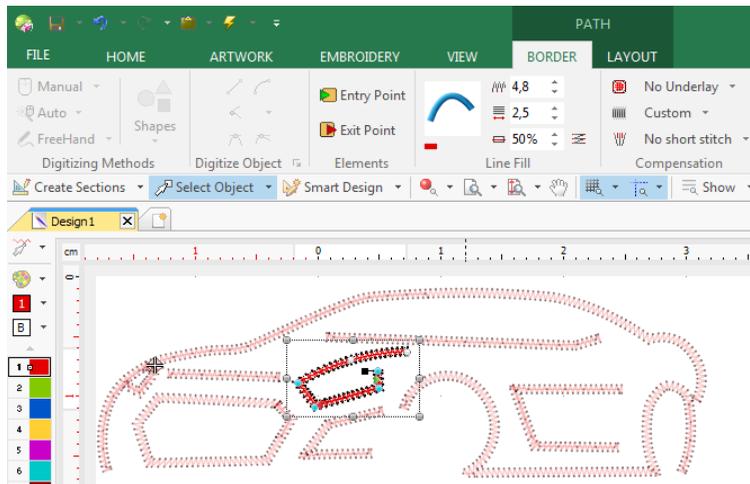
- ✓ An object is the simplest element we can insert in a design. The object is defined by a **shape** (contour, holes, etc) with auxiliary elements, and by the **properties**.
- ✓ We insert embroidery objects in a design because it is easier and faster than inserting stitches one by one. When you insert a simple rectangle and define the embroidery properties (stitch style, density, etc) the program converts that object into stitches (stitch generation).
- ✓ If you save the design in the system native format DSG, that format keeps all the information of the objects (shapes, properties, etc.). You may then edit the object (modify the shape and properties) at any moment easily.
- ✓ Instead, when you save the design in a machine file format (also known as expanded formats), that format only knows about stitches (in Embroidery), and the useful information of the object is lost.

System formats include Objects (Embroidery Objects, etc.).

Expanded formats (machine formats) include Stitches.

Object Editing

The second working mode is the Object Editing. When you have a design made by several objects, you are able to edit every characteristic of those objects. For example, you can change the shape of an object, enlarge or reduce it; move it to another place; modify each property in the same way you did when the object was created.



Press the Select Object tool (F11) (to enter the object editing mode).

Select an object in the workspace by clicking on it.

A surrounding rectangle will cover it.

Now, you can execute any of the object editing functions. Among others we can...

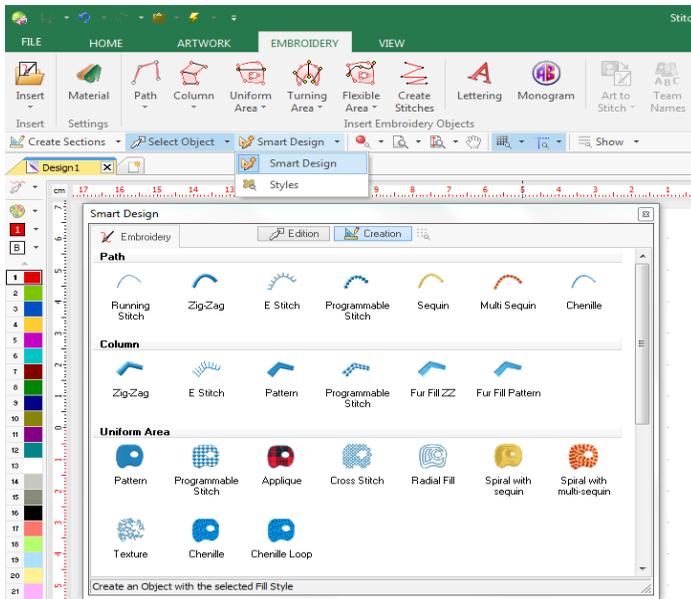
- Move the object (drag and drop the rectangle)
- Re-size the object (move the rectangle handlers)
- Rotate the object (press the CTL key and move the rectangle handlers)
- Change the shape of the object (drag and drop the nodes of the object)
- Modify any of the elements of the object (direction lines, holes, etc, depending on the object type used to create it)
- Change any of the fill properties (from the ribbon bar, or from the object properties)

After you edit an embroidery object, the program will re-generate the stitches according to the new object features.

As explained, when the design is made of objects, then object editing is very powerful to modify existing designs. It uses the generation engine to rebuild objects. By contrast, expanded editing (stitch by stitch) is more complicated, slow, and it doesn't use the generation engine of this software to rebuild design parts.

Smart Design

The third working mode is called Smart Design. This tool simplifies the steps and speeds up the object creation or edition process, as well as some functions related with the auto-digitizing feature over vector objects.



Press the Smart Design tool (to enter the Smart Design mode).

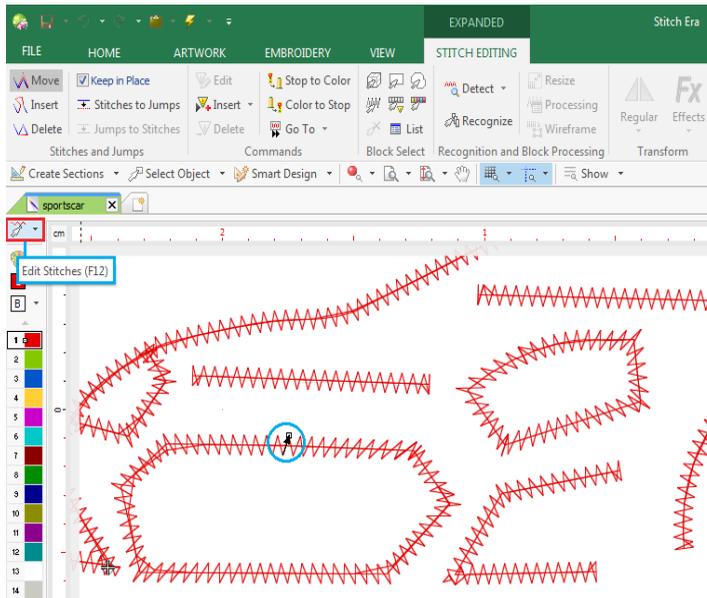
A window with the tabs Embroidery; Edition and Creation will open.

Click on the Creation tab to see the available tools to build a new object; click on the Edition tab and select an object, to be able to... convert it from vector object into an embroidery object; and/or convert the kind and fill of an embroidery object to a totally different one, among the available.

This working mode will be explained in Chapter 10 The Smart Design Tool.

Expanded Editing

This is the fourth working mode. Sometimes you need to edit stitches (of an embroidery design) or stones of a hotfix design. Certainly Stitch Era includes all the necessary tools for expanded editing. Expanded editing is required when the design is not made of objects, this is the case when the designs are imported from commercial machines file formats. However expanded editing is also applied to objects where fine tuning is required.



Press the Edit Stitches tool (to enter the expanded editing mode).

The ribbon bar will show many expanded editing tools.

Select a stitch by clicking on it on the workspace or a stitch block, by means of the block tools available on the Block Select group.

Now, you can execute any of the expanded editing functions, which will let you:

- Move, delete or insert stitches
- Convert stitches to jumps & viceversa
- Add, delete or modify machine commands
- Select blocks, then move, delete, rotate, copy & paste, etc.

- Use the block processing functions to change density and patterns

Common Tools

There are some useful tools that are always available no matter what tab is active. They are located in two groups: one above the working area which we will call Auxiliary toolbar and the other on the right edge of the working area, called Views Panel;



The one above the workspace area gathers the following functions: on the left: Create Sections, that allows to build new objects, graphic shapes, embroidery and/or hotfix (according to the software product acquired); Select Object, used to select one or more objects for edition; Smart Design, a great tool for quick object creation, edition and conversion (briefly explained in previous pages); and visualization tools like simulation view, zooms, pan and hide/show options;

On the right you will find some very helpful led lights, one for each document type you are using and each with its corresponding tab in the Document Map. You have Auxiliary; ScreenPrinting; Cutter; and Embroidery (according to the software product acquired). They allow you to Hide, Show or Lock the objects that form your design to easier your designing process.

Auxiliary toolbar will be explained in Chapter 2.

Views Panel

Located on the right side of the workspace area, the Views panel allows you to explore the structure of your designs, that is, the sequence of entities the design is built of.

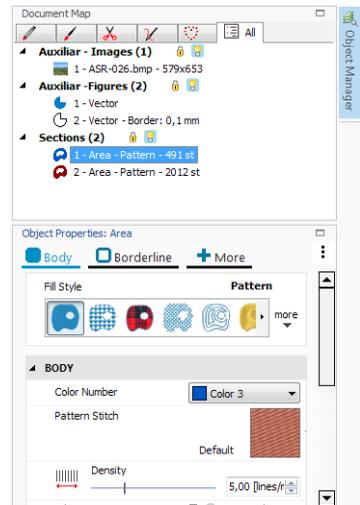
The main view is the Object Manager. It contains a panel with a map of the design, divided in object types, and section by section, with predefined fill modes.

Below are the Object Properties, which show the complete list of properties to be able to control, in detail, how the system will generate the stitches for your embroidery objects.

Other important views are the Embroidery Objects and the Hotfix Objects.

Each view shows a Sequence of all the Embroidery Objects present in the design, and below it, a list of all the design's stitches, very useful when editing designs in machine format (also called expanded designs).

The last view, called Vector Objects shows a list of all the vector objects present in the design.

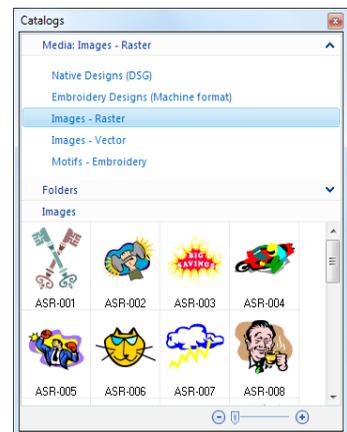


Catalog

There's also another group gathered in a floating window that remains open once you click on its access, named Catalog. It is located on the HOME ribbon, INSERT group. It allows graphic browsing of all the media handled by your software so you have quick access to it. It's divided in three panels. The upper one shows the media type: Images (Raster and Vectors); Native Designs (DSG files); Embroidery Designs (machine format) and Motifs – Embroidery (predefined files ready to be used).

Having selected the media type, the second panel, named "Folders" shows the available folders on your computer. Navigate through your disk units and folders until you find the one needed. The third panel, named "Images", will display the contents of the selected folder graphically.

Find the desired object and just drag it into the workspace to load it. Don't worry about the object type, the system will recognize it and will proceed properly.



About Embroidery Files

Expanded Design files (Machine format)

Expanded Designs files are those that contain just the basic stitch information the embroidery machines need to work. Generally, it consist in a large, stitch by stitch, sequence of small blocks with displacement information (for both, X and Y axis) and “function” information that indicates how the machine should interpret the block: as a simple stitch, as a jump, as a color change, etc. The way the stitch information is stored into the file is called “code”.

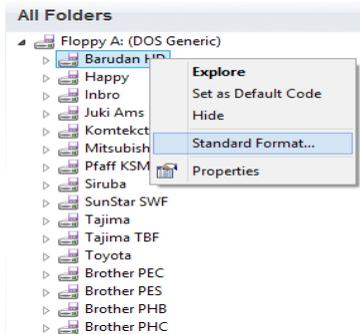
Almost every machine maker have defined their own codes for expanded designs, so, expanded codes are often mentioned using the maker name, for example: Tajima code, Toyota code, etc.

Embroidery machines require designs in expanded format to work. Depending on the machine type and model, those designs need to be saved into floppy disks (sometimes specially prepared according to the code the machine can read), into USB units or sent to the machine using a direct connection. Most modern embroidery machine can read several codes.

Preparing Diskettes – Format

Before using a floppy disk to store the designs to be sent to the machine, you need to prepare the disk through a process called Format. Format depends on embroidery code, so you need to specify the code before formatting. Check your machine documentation to know what embroidery codes it can read.

To format a disk, open Embroidery Explorer (using the program shortcut on your desktop), and in the tree panel at the left, open the Floppy item by clicking on the “+” icon. Then scroll down to find the embroidery code you need, open the context menu (click the mouse right button) and select Standard Format...



Formatting may take some minutes. Consider these tips:

- When you format a disk, all the information stored in it will be permanently erased
- To change a disk code, you need to format it again in the new code.

- Some codes required 2DD diskettes types (instead of 2HD). Use the proper diskettes type.
- When you format a disk in a given code, you can only store designs in that code in it.

Disk Codes

The table below shows all the codes supported by Stitch Era and some of their most important features. The column Hard Disk Support indicates that the code is compatible with the Windows file system, so designs in such codes may be also stored in the hard disk.

Code	Diskette Type	Hard Disk Support	File extension	Allowed characters for filenames	Allowed Operations
<i>Native Expanded</i>	3.5 " DD/HD	Yes	.eys	8 letters & numbers	Read/Write
<i>Tajima</i>	3.5 " DD/HD	Yes	.dst	8 letters & numbers	Read/Write
<i>Tajima (ext)</i>	3.5 " DD/HD	Yes	.dsb, dsz	8 letters & numbers	Read
<i>Barudan FDR</i>	3.5 " DD	No		8 letters & numbers	Read/Write
<i>Barudan FMC</i>	3.5 " DD	No		8 letters & numbers	Read/Write
<i>Barudan HD</i>	3.5 " DD	No	.u01	8 letters & numbers	Read/Write
<i>Z.S.K.</i>	3.5 " DD	No		8 only numbers	Read/Write
<i>Toyota</i>	3.5 " DD/HD	Yes	.100	8 letters & numbers	Read/Write
<i>Happy</i>	3.5 " DD/HD	Yes	.tap	8 letters & numbers	Read/Write
<i>Melco Exp.</i>	3.5 " DD/HD	Yes	.exp	8 letters & numbers	Read/Write
<i>Mitsubishi</i>	3.5 " HD	Yes	.100...	8 letters & numbers	Read/Write
<i>Sierra</i>	3.5 " DD/HD	Yes	.dat	8 letters & numbers	Read/Write
<i>Bits and Volts</i>	3.5 " DD/HD	Yes	.bro	8 letters & numbers	Read
<i>Brother PES</i>	3.5 " DD/HD	Yes	.pes	8 letters & numbers	Read/Write
<i>Brother PHB</i>	3.5 " DD/HD	Yes	.phb	8 letters & numbers	Read/Write
<i>Brother PHC</i>	3.5 " DD/HD	Yes	.phc	8 letters & numbers	Read/Write
<i>Brother PEC</i>	3.5 " DD/HD	Yes	.pec	8 letters & numbers	Read/Write
<i>Singer/Compucon</i>	3.5 " DD/HD	Yes	.xxx	8 letters & numbers	Read
<i>Elna/Janome</i>	3.5 " DD/HD	Yes	.sew	8 letters & numbers	Read/Write
<i>GMI Ela</i>	3.5 " DD/HD	Yes	.ela	8 letters & numbers	Read/Write
<i>Siruba</i>	3.5 " DD/HD	Yes	.plt	8 letters & numbers	Read/Write

Code	Diskette Type	Hard Disk Support	File extension	Allowed characters for filenames	Allowed Operations
Sunstar SWF	3.5 " DD/HD	Yes	.sst	8 letters & numbers	Read/Write
Pfaff KSM	3.5 " DD/HD	Yes	.ksm	8 letters & numbers	Read/Write
Pfaff PCM	3.5 " DD/HD	Yes	.pcm	8 letters & numbers	Read/Write
Pfaff PCS	3.5 " DD/HD	Yes	.pcs	8 letters & numbers	Read/Write
Juki (212 C)	3.5 " DD/HD	Yes	.ams	8 letters & numbers	Read/Write
Juki Ams	3.5 " DD/HD	Yes	.m3	8 letters & numbers	Read/Write
Husqvarna	3.5 " DD/HD	Yes	.hus	8 letters & numbers	Read/Write
Husqvarna Viking	3.5 " DD/HD	Yes	.vip	8 letters & numbers	Read/Write
Wilcom T01, T03, T04, T05	3.5 " DD/HD	Yes	.t01, .t03, .t04, .t05	8 letters & numbers	Read
Inbro	3.5 " DD/HD	Yes	.inb	8 letters & numbers	Read/Write
Komtekt	3.5 " DD/HD	Yes	.cem	8 letters & numbers	Read/Write
Pfaff PCD	3.5 " DD/HD	Yes	.pcd	8 letters & numbers	Read/Write

Letters & Numbers: All letters A-Z (normally upcase only, but Stitch Era converts to upcase automatically when needed) and numbers 0-9. Some other characters are also valid (depending on code), but it is not recommended. Space is not a valid character.

Some codes use a special numeric identification for the designs files and the name you type for a design is not used for the file name (it is stored inside the design file).

Condensed Design Files (Design format)

Design format files or condensed files (extension .dsg) are very different from expanded files. They contain detailed information about the entities the design is made of, colors and needles used, images used as reference, etc. and, of course, stitches information. Design files cannot be sent directly to embroidery machines; you need to Export them in the code you want before sending them to the machine.

Chapter 2

The File Page and Ribbons

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In this chapter you will learn about the basic commands you need to open embroidery files and use the large set of visual tools available to explore the design, manipulate its colors, access detailed information and generate printouts. The chapter also includes topics about Material settings and Start Page usage.

The File Page

Once the program is loaded, the **File Page** will open.

The first screen to be displayed shows the File - Open commands. You have other commands grouped in the File page besides Open. They are Save; Information; Print; Options and Account. We will see them in detail in this chapter.

File - Open

From this command you can load all types of designs (expanded and condensed) into Stitch Era.

It offers several options to start your work, which are gathered within the following group names:

- New;
- Open;
- Import;
- Recent Documents;

New

Blank Design Document: Opens a new working window ready to start working.

Simple Wizard: Use this option to create new designs by indicating just the material and hoop.

Complete wizard Embroidery: This option will prompt you to specify design name, storage folder, design authoring information, classification, job order, price, etc. Some information is optional and other is required.

Open

Open a Design Document: Displays an Open Design dialog so you can browse your units and folders and select the design (condensed format) you want to open.

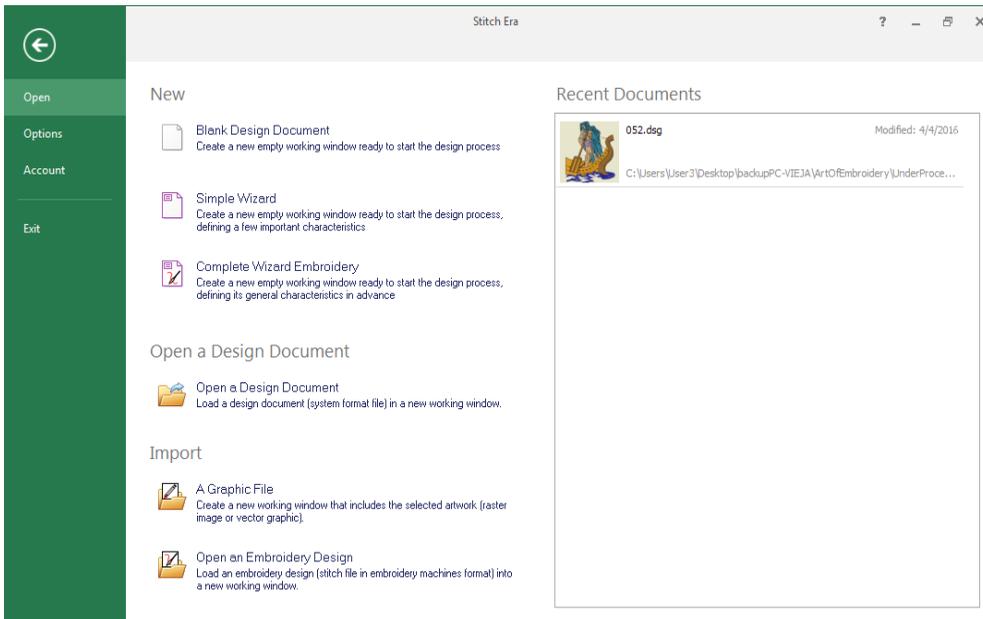
Import

A Graphic File: You can open a Raster or Vector Image into a new document, as well as getting an image file directly from Corel DRAW or Adobe Illustrator.

Open a Embroidery Design: Displays an Open Design dialog so you can browse your units and folders and select the embroidery file (expanded format) you want to open.

Recent files

Shows a graphical preview of the last recent designs loaded, so you can double-click on any to quickly re-open it.



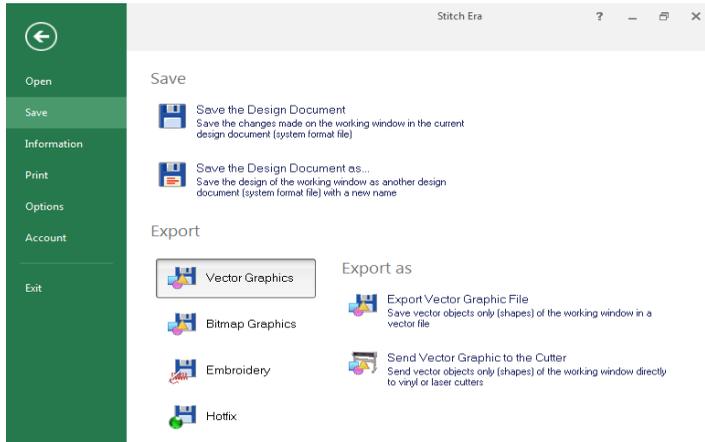
After you click on any of the available options, a window may open.

- You can browse your units using the left panel and the Look In control available in the toolbar.
- You can switch the view mode to icons, list, details, several thumbnails mode, etc
- You can select the codes to be displayed or use the All Files filter to indicate Stitch Era to display all types of embroidery files.

To open a design just double click on it (or select with one click and press the Open button).

File - Save

From this command you can save (store) the active design (current design document) in the system native format, export the design in any compatible machine format, send the active design directly to the machine for production, etc.



It offers several options to start your work, which are gathered within the following group names:

Save

Save the Design Document: Save the Design Document to save a Design format file also known as condensed file. You can save Sierra Designs (DSG files)

Save the Design Document as...: This option will save a copy of the working window with another name.

Export

Vector Graphics

Bitmap Graphics

Embroidery

Hotfix (depends on system acquired)

When you click on any of the options, "Export As" will list the available choices.

When you finish your work with a condensed design, save it for the last time to keep the last changes made and use the Export command to prepare it to be sent to your embroidery machine. If later, you need to make some changes, open the dsg file (condensed), make the changes, save the dsg file and export it again.

This procedure may sound too indirect at this point but, as you will discover in the following chapters, dsg files are much easier and flexible to modify than expanded design files.

The whole idea is to work, all the time, with dsg files and export them into expanded files just before sending them to the machine.

Note 1: Stitch Era offers an auto-backup feature that automatically saves the active design at a regular time interval (specified in File – Options - Preferences Setup – Project – General). However, it's a good practice to save the design by yourself once you have complete a task you consider important during the design process.

File - Information

From this command you have access to four different groups that have to do with the design information, sharing and production calculation.

Information

- **Design Properties (Infocard):** Shows a summary of the design properties including information of authoring and classification.
- **Embroidery Properties (Infocard):** Shows a summary of the embroidery properties.

Share

- **Share the Design in Social Networks:** You can upload the design on the work window along with a comment via Twitter.
- **Send Embroidery Design by e-mail:** Send the embroidery in the selected machine format as an attachment of an e-mail.

Product Calculation (Optional Feature)

- **Embroidery Production Timing:** Wizard for the time estimation for the production of the design.
- **Embroidery Pricing:** Wizard for the making of a production budget for the current design.

We will see each one in detail.

Information-Design Properties (Infocard)

It is divided in three tabs: General; Job and Authority; Category.



General tab

Contains basic design file information such as design name, file name, storage path, file size, creation date, last edition date and file attributes.

Job and Authority tab

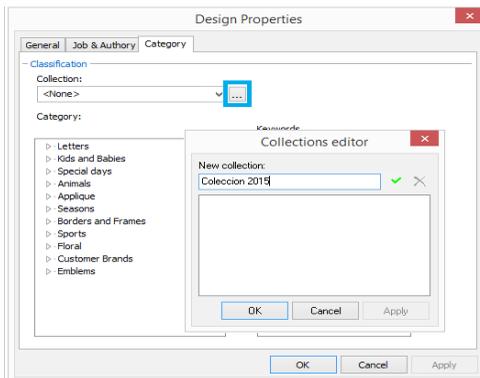
Using this tab you can add job order and design author Information.

Data related with job order includes order number, requesting and creation dates, customer name and time used (computed automatically)

Author information includes design codification, owner, author, copyrights, etc.

Category tab

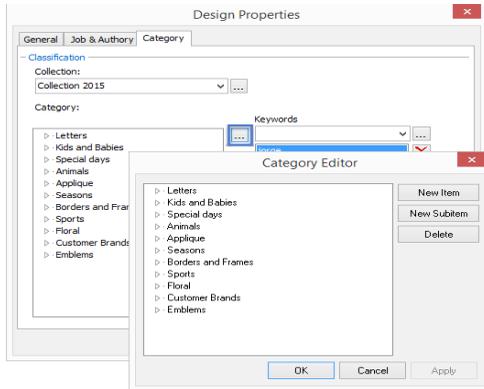
Last, the Category tab allows to establish information about Collection, Category and Keywords which will be assigned to the design. All this data will be very useful for those design saved in the Design Library.



To add information follow these steps:

Collection – To add a new collection, clic on the ellipsis button [...], which is marked on the left figure.

The Collection Editor box opens, type the name and press the green check button to finish inserting it to the system, it will be listed in the Collection list, clic on the OK button to confirm the Collection just inserted.



Category – It is a hierarchy tree. To assign the design a determined category, simply select it from the list.

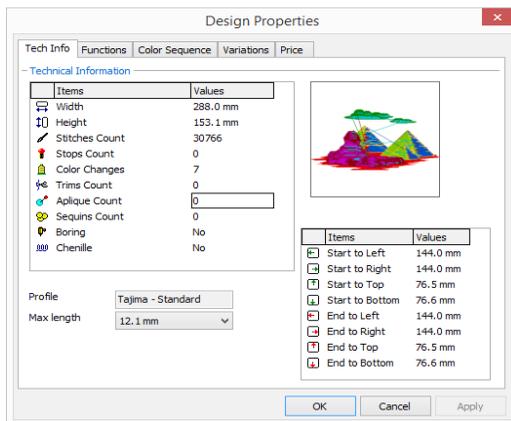
In the case the Category does not exist, enter the Category Editor through the ellipsis button [...] and type the adequate category. From this box you can create and delete items and sub items through the corresponding buttons (see left figure).

Keywords - Keywords are intended for helping searches. A keyword is a descriptive word (normally just one word) related to the design thematic. A design may contain several keywords. You can add keywords using the Keyword editor (ellipsis button).

Information-Embroidery Properties (Infocard)

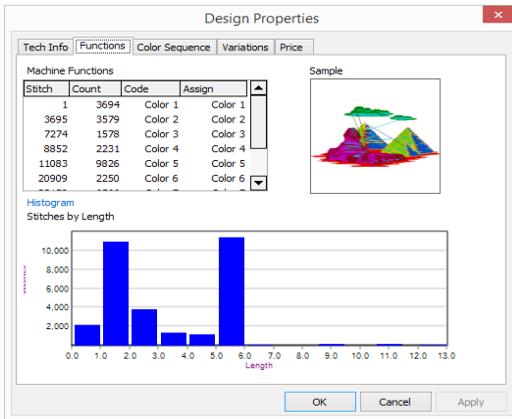
It's divided in five tabs: Technical Information; Functions; Color Sequence, Color Variations and Price.

Technical Information tab



It includes general technical design data such as stitch count, color count, machine functions, trim counts, size, start and end points position, profile used to export it to machine format, etc.

Functions tab

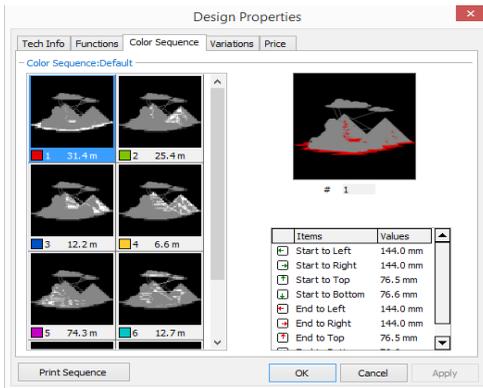


This tab contains detailed information about the machine functions (or machine commands) used in the design.

The list lets you set the functions for each control, to indicate the machine operator how to make the preparation before starting the run.

It also contains a Stitches by Length histogram where you can quickly get an idea about how the design will perform in the machine (shorter stitches usually means that machine will run faster, so design will take less time to be produced.)

Color Sequence tab



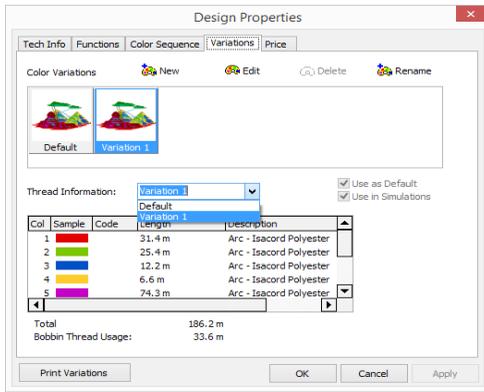
Within this tab you will find a sorted list with a graphic view showing the colors in the design in the order they will be embroidered.

The thumbnails also contains information about the needle number and thread usage.

On the lower left corner you will find the *Print Sequence* button, that will allow you to make a print out of the same information shown above.

Note: It is the same print out that corresponds to the Embroidery Sequence of the Print Formats option, explained before.

Variations tab



In this tab you can define several color palettes different from the predefined one, showing complete information about the thread codes associated to each color. It has a graphic view that shows the design with each palette and a detailed view for the selected palette.

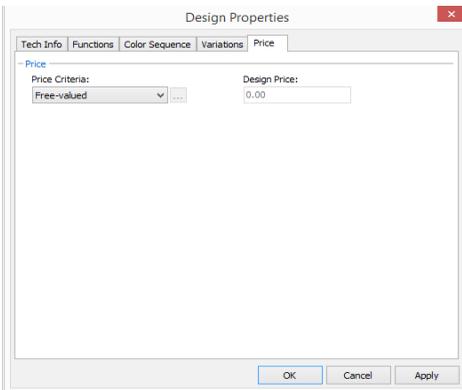
Clic on *New*, to create a new palette which will appear as *Variation1*.

From the check boxes you can configure if the new palette will be used always (by default); and if it will be used when making embroidery simulations.

On the lower left corner you will find the *Print Variations* button, that will allow you to make a print out of the same information shown above.

Note: It is the same print out that corresponds to the Embroidery Sequence of the Print Formats option, explained before.

Price tab:

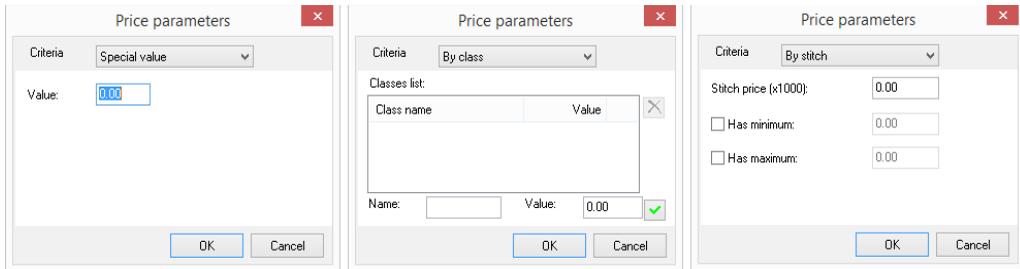


You have an utility that will help you to establish the embroidery values based on a Price Criteria.

In Price Criteria you have an unfoldable list with the options: Free; Special Value; By Class and By Stitch.

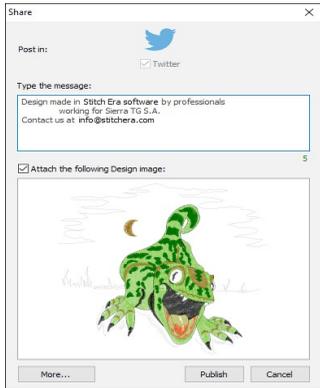
Due to the selected criteria you have to define the requested values (stitches price and Class value, etc.).

Pressing the ellipsis button [...] you open the Price Parameter dialog box. From here, you will have to fill in the necessary information, to be able to automatically generate the *Design Price* in its corresponding item.



Note: The ellipsis button [...] that opens the Price Parameter dialog box will enable when you choose an option different from Free Price Criteria.

Share-Share the Design in Social Networks



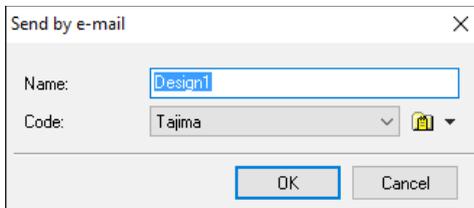
This option allows you to upload the design that is on the work window to the Social Networks - Twitter.

You may add a comment along with the design.

Follow these steps:

With the design you want to upload on your active document windows, go to the *File-Information* tab, then to the *Share* group, and click on *Share the Design in Social Networks*.

Share-Send Embroidery Design by e-mail



This option allows you to upload send an embroidery file by e-mail as an attachment.

Having the design onscreen, click on “Send Embroidery Design by e-mail”.

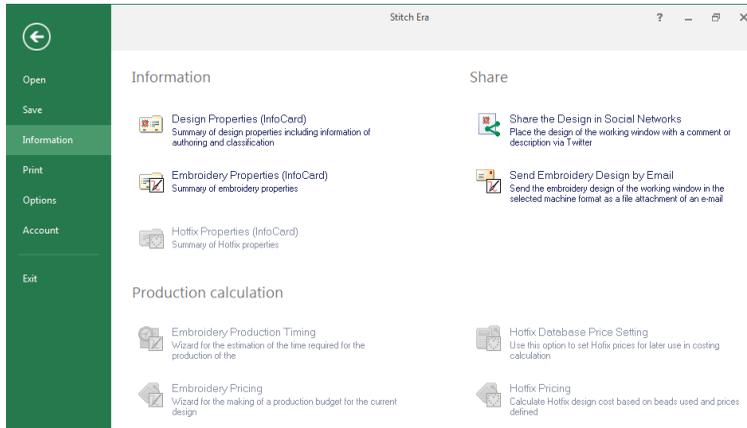
The *Send by e-mail* box will open. Insert a name and choose a machine code in which to export the design.

Upon pressing OK, a new e-mail message will open and the embroidery file (in the desired machine code) will be attached to it.

Information-Product Calculation (Optional Feature)

Stitch Era includes tools to estimate embroidery production time and to prepare embroidery service quotations.

You can access these tools from the File – Information - Product - Calculation menu, and selecting any of the items: Embroidery Production Timing; Embroidery Pricing;



Embroidery Production Timing

This tool produces a production time estimate based on:

- Number of pieces
- Design characteristics: Stitch count, color count, average stitch length
- Machine features: Heads, needles, speed, incident times (time for color change, time for thread trim, etc)
- Operator intervention: time for hoop change, bobbin change, etc.

Consider that the more accurate you can specify these parameters, the more accurate the estimate will result.

Features for some embroidery machines are available in the system Machine Library (Ellipsis button under Machines to be used). You can add your own or use the most similar to your machine. Default operator intervention times included with the system are statistical values.

To get a quick, initial estimate, just enter the number of pieces to produce and select a machine from the list. The estimate is computed almost instantly.

You will get a Time Usage graph with fractions for the main events and a Job Summary, with run count, average speed, etc.



Using this buttons (located besides the bolded items on the left panel) you can access details about the items and will be able to change some values.

Machine to be used

Name: ZSK J04 11TC

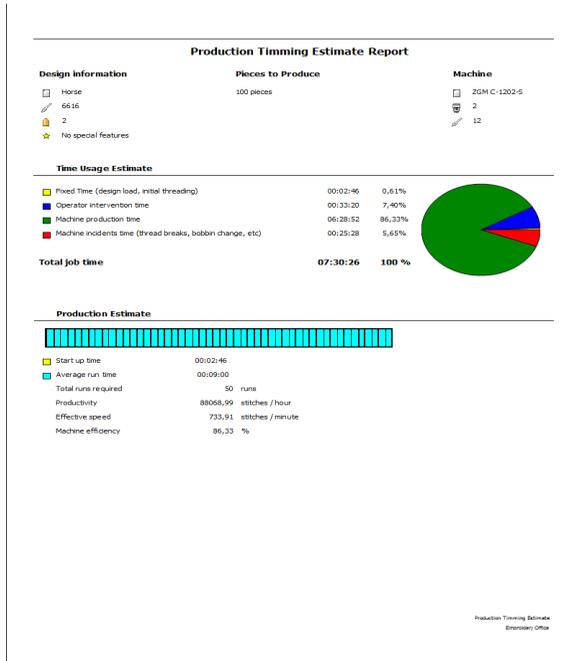
4 Heads 11 Needles	250 x 350 mm
<input checked="" type="checkbox"/> Average Speed: 900 SPM	
<input type="checkbox"/> Tubular	<input type="checkbox"/> Borer
<input type="checkbox"/> Caps	<input type="checkbox"/> Sequin
<input checked="" type="checkbox"/> Trims Cones	<input type="checkbox"/> Chenille
<input checked="" type="checkbox"/> Trims Bobbins	<input type="checkbox"/> Laser

Time for operator intervention

Total operator intervention: 00:01:44

<input checked="" type="checkbox"/> Load Design	00:01:44
<input checked="" type="checkbox"/> Initial threading	00:00:00
<input checked="" type="checkbox"/> Hoop Change	19 sec / 00:00:00
<input checked="" type="checkbox"/> Change Cone	28 sec / 00:00:00
<input checked="" type="checkbox"/> Change Bobbin	14 sec / 00:00:00
<input checked="" type="checkbox"/> Put Applique	0 sec / 00:00:00

The print button, at the lower left corner of the box, allows to print a Production Time Estimate report, with the main results and graphs for Usage Time and Job runs.



Embroidery Pricing (Quotes)

This tool is specialized to prepare embroidery service quotations based on design information, piece count and price values you define.

It allows you to consider the following price components (goods and services).

- Garments
- Production / Sewing
- Art / Digitizing
- Samples
- Delivery

Order price

Order Quotation

Stitches 18642 6 No special features

Pieces

Calculate price for pieces

Price components		Order Pricing Summary
<input type="checkbox"/> Garments	\$ 0.00	Sub Total \$ 0.00
<input type="checkbox"/> Sewing / Production	\$ 0.00	<input type="checkbox"/> Other charges 0.00 % \$ 0.00
<input type="checkbox"/> Art / Digitizing	\$ 0.00	<input type="checkbox"/> Discounts 0.00 % \$ 0.00
<input type="checkbox"/> Sewing	\$ 0.00	Total \$ 0.00
<input type="checkbox"/> Delivery	\$ 0.00	

No price components details to show

To include a Price Component to your Order Price, check the appropriate mark in Price Components

Print Save Close

If you need to include any of these price components, just check the corresponding box and the system will add a tab in the lower panel where you can specify the details of the component, using different strategies.

For example, when you check the Garments item, the tab Garments contains the following options:

Garments at no charge: Garments are provided at no charge, so do not affect the quoted price.

Fixed charges: You need to enter just the charge value.

Calculate garments charge: The system will perform basic calculations based on a list of garments and its unit prices and the profit margin, additional and discounts you indicate.

Each price component checked will be filled with the computed values and produce the Subtotal value in the Order Pricing Summary group. There, you can add a global charge and discount and then save the quote and print it, as you can see in the figure below.

The screenshot shows the 'Order price' window with the following details:

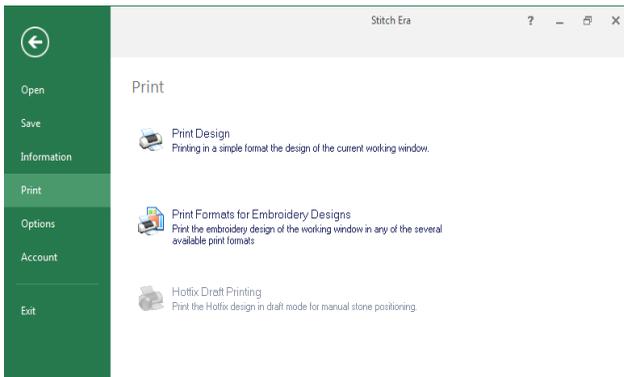
- Order Quotation:** Order ID AB-2003-021, Reference 35679, Quantity 10, Price by 1000 pts.
- Pieces:** Calculate price for 50 pieces.
- Price components:**
 - Garments: \$ 501.37
 - Sewing / Production: \$ 130.00
 - Art / Digitizing: \$ 50.00
 - Sample: \$ 35.00
 - Delivery: \$ 25.00
- Order Pricing Summary:**
 - Sub Total:** \$ 631.37
 - Other charges: 7.00% → \$ 44.19
 - Discounts: 0.00% → \$ 0.00
 - Total:** \$ 675.56
- Garments Tab:**
 - Options: Garments at no charge, Calculate garments charge, Fixed charges.
 - Table:

Qua	Description	Price	Size	Sub Total
25	T-Shirt Lady - Code 2021	\$10.00	M	\$250.00
25	T-Shirt Lady - Code 2020	\$9.10	S	\$227.50
 - Buttons: Add, Del.
 - Additional components:
 - Margin: 5.00% → \$ 23.87
 - Discounts: 0.00% → \$ 0.00
 - Other characteristics: \$ 0.00 unit → \$ 0.00
 - Garments acquired value:** \$ 501.37

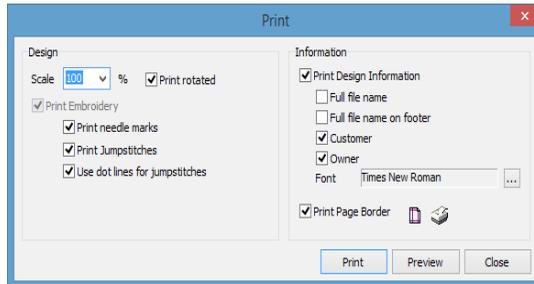
File – Print

Stitch Era offers two methods for printing your designs: Standard Print and Print Format. The Standard Print allows a general, simple layout, with a quick setup, while Print Formats allows printing with detailed layout customization, including different information type and for different purposes.

Standard Printing



To print the active design, just use the Print command from FILE – PRINT – PRINT DESIGN. The Print box allows you to select basic printing parameters for the design picture and for the information to be printed with it.



Scale: This parameter refers to the size of the design in the paper sheet. Use 100% to get a full scale, 1:1 print out

Print needle Marks: When marked, includes the printing of small dots signalling the needle points.

Print Jump stitches: Check this to include design jump stitches within your printout

Use dot lines for jump stitches: Check this box to use a dotted line for jump stitches, instead of a solid line.

Print rotated: When checked, the design is printed in landscape mode.

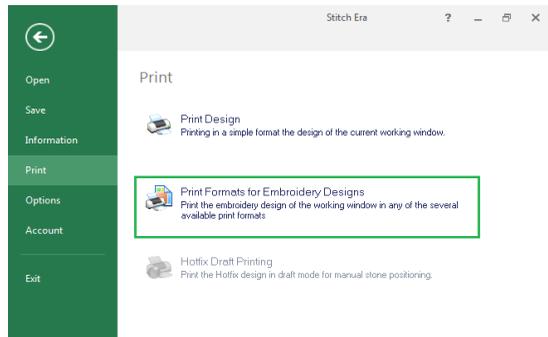
Print Design Information: Check this box to include an information area in the printout. The marks Full file name, Customer and Owner allows you to set what extra information should be included.

Print Page Border: Check this mark to force a thin box to be printed all around the layout.

Note: Use the Preview button to check how the printout will look before printing. Use the controls at the lower right corner to control page margins and set printer preferences.

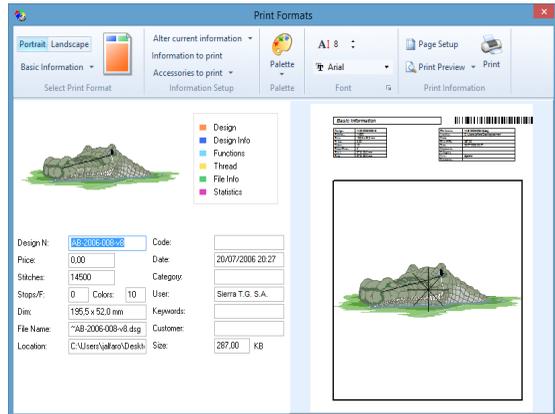
Advanced Printing

Printing of designs with formats allows a wide range of varieties, giving you the possibility to perform your printings in a personalized way. If you want a print out with formats select the Print Formats option, from FILE – PRINT – PRINT FORMATS.



The Advanced Print Format box will then appear. The application supports many preset formats and styles for you to use them in design presentations of different purposes, as for example: show the technical information of the design, the presentation page with simulation, etc.

Also, you can access an advanced configuration in order to change the printing appearance in detail.



Advanced Printing ribbon

The ribbon available within the Print Formats box allows you to select the layout you need and to control all the options available.



Select Print Format group

Select an orientation, Portrait or Landscape and then choose the layout to be used from the commands at the group Select Print Format.

The following list indicates what is included within each layout:

Basic Information

- The drawing of the embroidery design
- General information of the design
- File information
- Bar code

Technical Information:

- The drawing of the embroidery design
- General information of the design
- File information
- Thread information
- Sequence of commands
- Bar code

Color Sequence:

- The drawings of the embroidery design, separated by colors
- General information of the design
- Thread information
- Bar code

Simulation sheet:

- The simulated drawing of the embroidery design
- General information of the design
- Thread information
- Bar code

Complete Technical information:

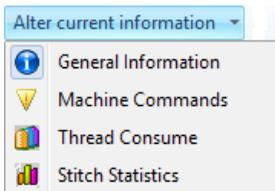
- The drawing of the embroidery design
- General information of the design
- File information
- Sequence of commands
- Thread information
- Statistics information
- Bar code

Color Variations:

- The drawing of the embroidery design
- General information of the design
- Thread information
- Bar code

Information Setup group

Modifying information to print



General Information: This panel displays information related with the design to print. The application allows you to change the content of all the items related to the file information, but these changes can be only made for the printing, not in the design.

Machine Commands: This view displays and allows changing the commands (controls) of the design. From this view you can, for example, re-establish the original commands, in those cases that they have been modified when converting to the current code.

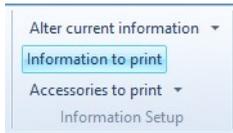
Thread Consume: shows and allows you to change:

- The needle sequence
- Number of stitches per color
- Thread length per color
- The color assigned to each needle (description or code of any color chart).

Stitch Statistics: shows and allows you to change (although it is not recommended):

- The needle sequence
- Number of stitches per color
- Thread length per color
- Number of stitches in every stitch length range.

Information to Print

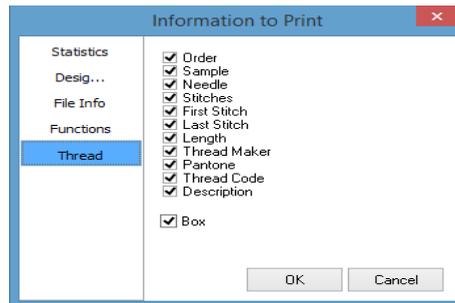


From File – Print – Print Formats – Information Setup group – Information to print, you can define the information you wish to print (design information, file information, functions, threads and statistics), and set the order these information should appear.

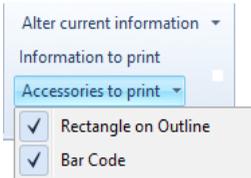
If you check or un-check the verification boxes you disable or enable the printing of each of the items. These changes can be applied to all the printing styles.

You have five tabs; each of them embosses all the information that will be grouped in the print out and organized in tables.

To change the order in which this information is presented in the printing, take any of the items and drag it to the new position.



Accessories to print



Check Rectangle on Outline option to include a thin box all around your printout.

Check the Bar Code option to include a bar-code printing of the design file-name.

Palette group



The Palette button opens the Color box where you can assign different thread colors to the design.

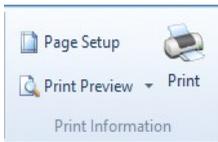
Font Group



Allows you to change the Font type, Style and Size of the fonts used in the print-outs to present the information.

Click on the bottom right arrow to open the Font box and make the desired changes.

Print Information group



From Page Setup you can configure page size, source, orientation, margins, etc.

From Print Preview you can see a *Print Preview Form* in an independent window, and if you are satisfied with all the changes carried out, you may start printing. You also have a Print button to skip doing previous settings.

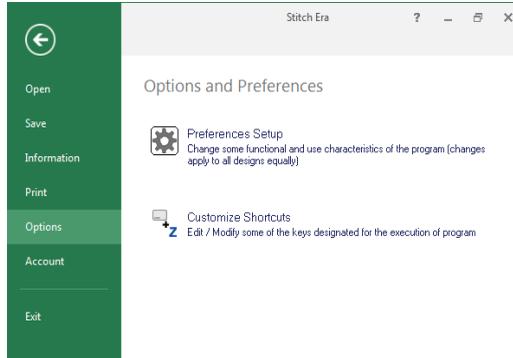
File – Options

Stitch Era lets you customize many topics related with the interface look and system behaviour. All the configurable options are managed from the FILE tab, OPTIONS section.

These options include functions related with the setting of this software application.

Options and Preferences show three possible customization choices:

- Preferences Setup. You can make some adjustments on the program to suit your needs.
- Customize Quick Access toolbar. You can modify the available functions that appear on the title bar.
- Customize Shortcuts. You can modify some of the predefined function keys to work faster on your designs.

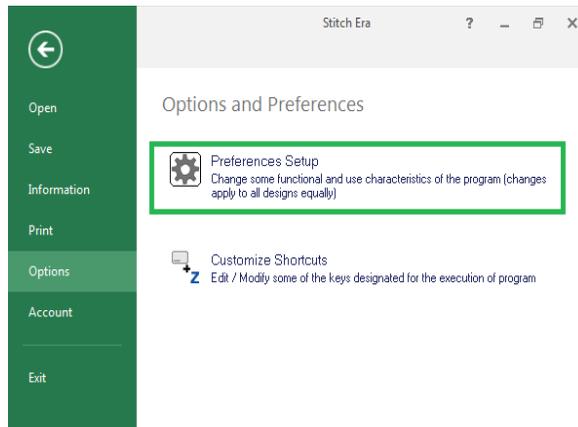


Preferences Setup

The Options and Preferences box shows a tree where the configurable options are organized in categories and topics.

Your settings will be saved when you press the OK button and will be preserved permanently.

The following paragraphs contain a brief description about the configurable options:



Application

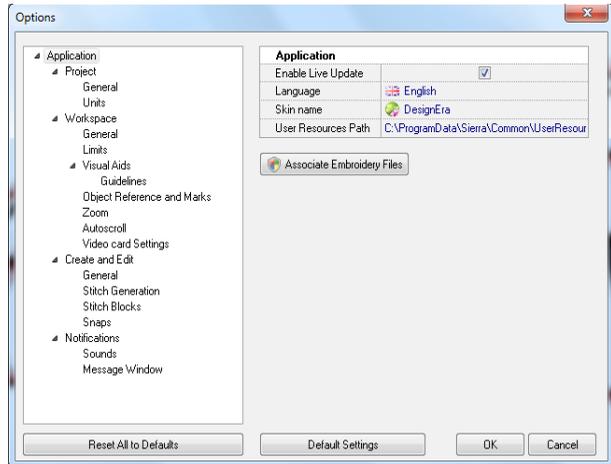
This category contains settings to set the preferences about:

1. Live Update: When enabled, the system checks for updates, services packs, news and special offers available for your product. This option requires internet access.
2. System language
3. Skin name: you have a list of available skins to choose from, to change the appearance of your software.
4. Users Resources path: to set the location of the components made by the user.

Project

General: This category contains options to control how the system starts.

Units: Lets you select the measurement units used for different elements. Click the numbers in the Group column and review the brief description, indicating the elements the units apply to.



Workspace

Within this category you will find options to manage the appearance of the workspace and visual aids, and the behaviour of some visual tools.

General: Options for rulers, large cross cursor and ribbon fitting in 1024 pixels wide screens

Limits: Set the max. workspace size and decide if the work area is limited to the workspace (system will not allow you to place objects outside the workspace if you check the option)

Visual Aids: This group lets you control the Guidelines (or Reference lines) position and colour and to define the Grid and Sub grid look and behaviour

Object References and Marks: Controls in this group allow you to define the visual aspect (color, transparency, etc.) of the marks the system uses to represent nodes, needle marks, sections references, etc.

Zoom: Use these controls to define the zoom factors and use of mouse wheel for zooming.

Auto scroll: This group controls the automatic scrolling feature: region size, speed, etc.

Video card Settings: These are important settings related with the performance of your display system. If you are using a good video card, you will want to set the Video hardware acceleration to the highest value to get faster screen redraws. It is also recommended to activate the Enhanced line drawing.

Some video cards may be not fully compatible with OpenGL implementation, and you might experience abnormal screen redraw. Lower the Video hardware acceleration value. Set value to zero, if video card is totally incompatible with OpenGL.

Create and Edit

This category includes the available customizable options for edition and creation tools and to set some general features of stitch generation and processing.

General: You will find options to control curve types (bezier or arcs), to hide and show some references while create or edit, to manage the Auto Generation mechanism, etc.

Stitch Generation: Allows setting automatic trim thread length, sensibility of small stitches filter, extra pull compensation for long corner stitches and corner roundness threshold.

Stitch Blocks: This group is related with the integrated Stitch Editor, specifically with its behaviour with blocks of stitches.

Snaps: Use this controls to enable or disable the snap schema and to define what snap tools you want. Snap is useful when you need to digitize with large accuracy, for example, when creating geometric designs.

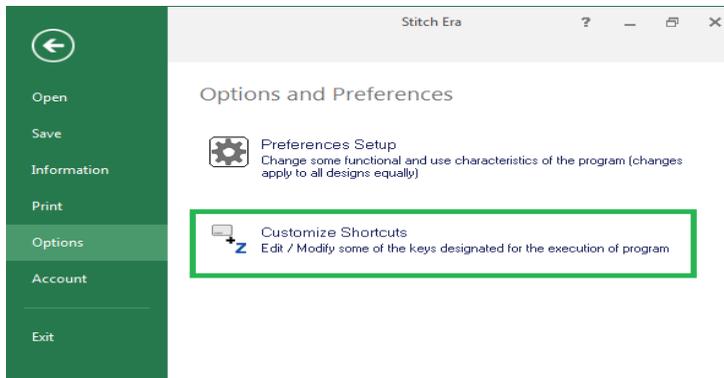
Notifications

Into this category you will find options to configure sounds for specific events and to control the Messages Window behaviour.

Reset to Default Values

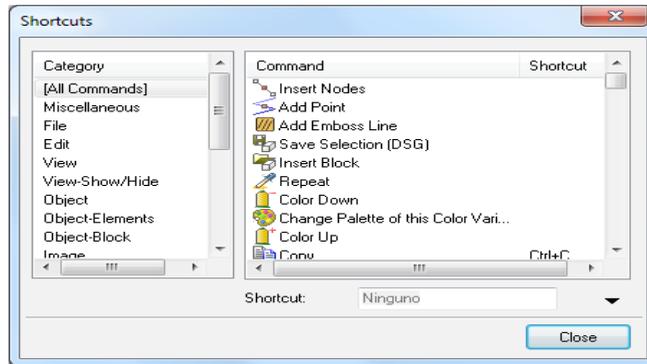
Settings in each group can be reset to their default values by pressing the Default Setting button located on the corresponding group. If you need to reset all the configurable options to their factory values, use the button Reset All To Default located below the tree panel.

Customize Shortcuts



Stitch Era lets you customize the shortcuts for most of the commands. To do so, follow the next steps:

- 1- Click on the FILE tab, then on OPTIONS group and select “Customize Shortcuts”.
- 2- In the Shortcuts box, locate the command you want to modify its shortcut, using the Category and Command lists.
- 3- Click on the box named Shortcut, press the desired key sequence and confirm it with the green button. Repeat these steps for all commands you need.



Keyboard Shortcuts

Executes a command through a key combination on your keyboard. Predefined shortcuts are:

	File	
	New (Blank Design)	Ctrl + N
	Open	Ctrl + O
	Save File	Ctrl + S
	Save as	Ctrl + Alt + S
	Print	Ctrl + P
	Design Information	Ctrl + I

	Object-Elements	
	Entry Point	Ctrl + B
	Exit Point	Ctrl + E
	Stitch Direction	Ctrl + D
	Hole	Ctrl + H
	Corner Node	Ctrl + N
	Curve Node	Ctrl + K
	Cut Line	Ctrl + R

	Edit	
	Copy	Ctrl + C
	Cut	Ctrl + X
	Paste	Ctrl + V
	Undo	Ctrl + Z
	Redo	Ctrl + Y
	Save to Memory	Ctrl + M

	View	
	Refresh	F5
	Redraw	Ctrl + F5
	3D View Onscreen	F7
	Simulation View	Ctrl + F7

	Delete Hotfix	Del
	Edit Stitches	F12
	Select Object	F11
	Select by Outline	Ctrl + F10

View-Zoom		
	Zoom Area	F6
	Maximize Total	Ctrl + F6
	Maximize Object	Shift + F6

Object		
	Create Stitches	Ctrl + Num 5
	Create Path	Ctrl + Num 6
	Create Column	Ctrl + Num 7
	Create Areas	Ctrl + Num 8
	Generate Stitches	F9
	Reprocess This	Shift + F9
	Reprocess All	Ctrl + F9

View-Show/Hide		
	Show Sections	F2
	Show Vectors	F3
	Show Images	F4
	Show Marks	Shift + F2
	Show Stitches	Ctrl + F2
	Show Color Tracing Box	Ctrl + F12

Help		
	Language	Ctrl + Alt + F1

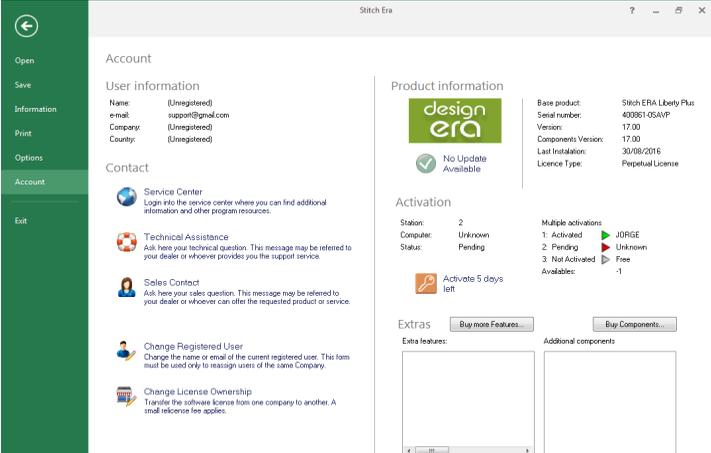
Miscellaneous		
	Scroll Left	Ctrl + PgUp
	Scroll Right	Ctrl + PgDn

File – Account

Gives you information about the User, installed Product, Activation Status.

It also lets you buy Features and Components.

You have contact links to the Service Center; Technical Assistance; Sales Contact; and to change Registered User and License Ownership.



The screenshot shows the 'Account' window in the Stitch Era software. The window has a green sidebar on the left with navigation options: Open, Save, Information, Print, Options, Account (selected), and Exit. The main content area is divided into several sections:

- Account:**
 - User information:** Name: (Unregistered), e-mail: support@gnial.com, Company: (Unregistered), Country: (Unregistered).
 - Contact:**
 - Service Center:** Login into the service center where you can find additional information and other program resources.
 - Technical Assistance:** Ask here your technical question. This message may be referred to your dealer or whoever provides you the support service.
 - Sales Contact:** Ask here your sales question. This message may be referred to your dealer or whoever can offer the requested product or service.
 - Change Registered User:** Change the name or email of the current registered user. This form must be used only to reassign users of the same Company.
 - Change License Ownership:** Transfer the software license from one company to another. A small release fee applies.
- Product information:**
 - design era logo
 - No Update Available
 - Base product: Stitch ERA Liberty Plus
 - Serial number: 4008510S4VP
 - Version: 17.00
 - Components Version: 17.00
 - Last installation: 30/08/2016
 - License Type: Perpetual License
- Activation:**
 - Station: 2
 - Computer: Unknown
 - Status: Pending
 - Multiple activations:
 - 1. Activated: JDRGE
 - 2. Pending: Unknown
 - 3. Not Activated: Free
 - Available: -1
 - Activate 5 days left
- Extras:**
 - Buy more Features...
 - Buy Components...
 - Data features: [Empty list]
 - Additional components: [Empty list]

Learning about the different Ribbons

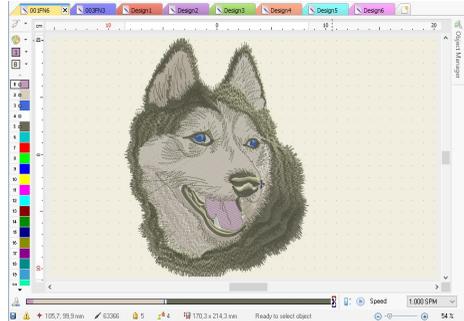
Once you have selected any of the File-Open commands, the main view will appear.

You will see a group of different ribbons which we named in the previous chapter. In this chapter we will talk about the Home and View ribbons. Artwork ribbon will be studied in chapter 6 Images and Vectors. Embroidery ribbon will shown in chapters 5 to 11.

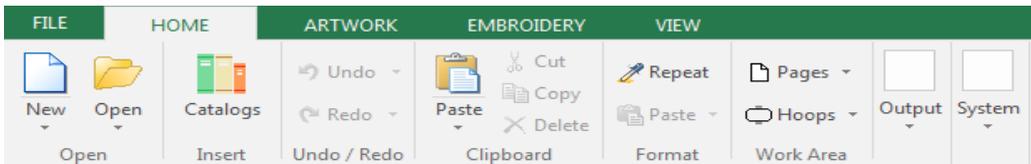
Within Stitch Era we call Main View to a series of panels and windows that display the design considering different aspects, like graphic look, entities sequence, stitches, etc.

Most of the job with a design is done in the graphic area we call workspace or main view.

It is the largest area in your screen and displays the design graphically. Every time you open a design or create a new one, is presented within a new tab. You can switch among loaded designs by simply clicking on its corresponding tab.



The Home ribbon



Open

This group has two commands: *New* and *Open*.

New: click on the arrow to unfold the possible options.

Simple Wizard: Use this option to create new designs by indicating just the material and hoop.

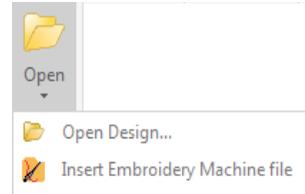
Embroidery Wizard (complete): This option will prompt you to specify design name, storage folder, design authoring information, classification, job order, price, etc. Some information is optional and other is required.



Open: click on the arrow to unfold the possible options.

Open Design: Use this option to open a native.

Insert Embroidery Machine file: Displays an Open Design dialog so you can browse your units and folders and select the design (condensed format) you want to open.

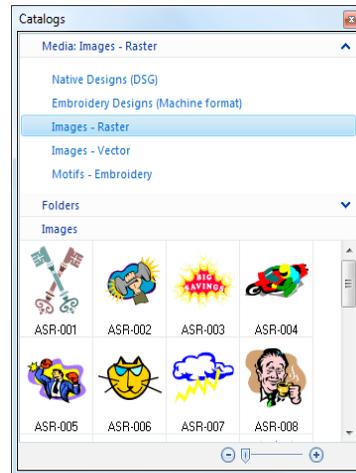


Catalogs

It is located on the HOME ribbon, INSERT group. It is a floating window which remains open once you click on its access.

It allows graphic browsing of all the media handled by your software so you have quick access to it. It's divided in three panels. The upper one shows the media type: Images (Raster and Vectors); Native Designs (DSG files); Embroidery Designs (machine format) and Motifs (predefined files ready to be used).

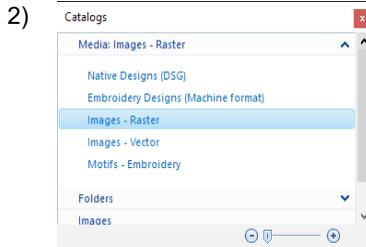
Having selected the media type, the second panel, named "Folders" shows the available folders on your computer. Navigate through your disk units and folders until you find the one needed. The third panel, named "Images", will display the contents of the selected folder graphically.



Once you find the desired object, step on it, and drag it into the workspace. The system will recognize the type of object, proceed to open it on the workspace, and visualize the corresponding ribbon toolbars.

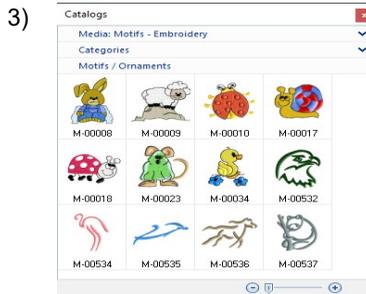
Example: We are going to open an embroidery motif named *M-00532*. Follow these steps:

- 1) Open a blank document. On the *Home* ribbon, *Insert* group, click on *Catalogs*.



On the first panel, click on the ▼ to the right of the item Media: *Images - Raster* to unfold the list of other Media type available.

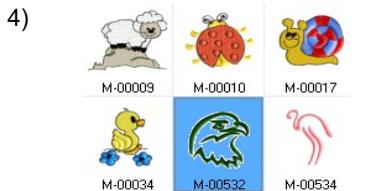
Click on *Motifs – Embroidery*



The *Media* type will now show: *Motifs – Embroidery*

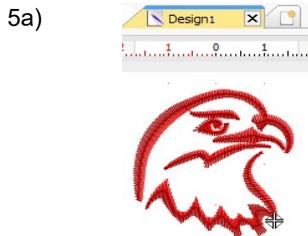
The third panel will show *Motifs* and beneath it you will see all the *Motifs* found on the first *Category* (listed in *Categories*).

To see the contents of another *Category*, on the second panel, click on the ▼ to the right of the item *Categories* to unfold the list of the others available. Click on the desired one to show the contents on the third panel.



Step on the motif you want. In this case, the *M-00532*.

You have two options: OPEN or EDIT the motif.



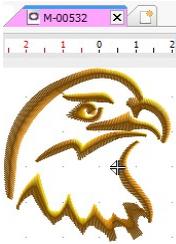
OPEN it as a new design...

> just by dragging it from the *Catalogs* window and dropping it on the workspace;

> double click on it on the *Catalogs* window, and then, on the workspace, keeping the left mouse button depressed, move it as you were making a rectangle. You will see the design being made. When you are satisfied with the size, release the button.

Note: See that the name of the *document tab* says *Design1*, which corresponds to a design file.

5b)



EDIT the motif to make changes on it.

When you save it, it will update the existing motif.

Create a different one by using the Save as...command.

Note: See that the name of the *document tab* says M-00532, which corresponds to a motif file being edited.

Undo and redo



It is always possible to undo the last actions taken, starting by the most recent, from the Undo command.

It is also possible to access this command from the quick access toolbar or from the Ctrl + Z shortcut. If you are not pleased with the undo result, you can restate the option from the command Redo, or through the shortcut Ctrl + Y.

Note: Remember that in basic levels, there's a limited number of undo/redo actions.

Clipboard

During the process of making copy and paste, once you have pressed CTRL+C, the object will remain in the clipboard until you decide to paste the content of it (CTRL+V). You can copy and paste raster and vector images; design, embroidery, and hotfix objects from the clipboard.



Delete



Use this command to delete a section or group of sections without modifying the rest of the design. First of all, it is necessary to select a section or block. Then, access the Home ribbon or context menu and click on the Delete button.

Cut



This command copies the section or block selected into the clipboard and deletes it from the current document without modifying the rest of the design. The block cut remains in the clipboard. Activate the command from the Home ribbon or click on Ctrl + X.

Copy



This command copies the section or block into the clipboard, without altering the current design or deleting the original section or block. Click on the Copy command from the Home ribbon or click on Ctrl + C so that the clipboard holds the selected block. Then, paste it wherever you want.

Paste



This command copies the clipboard content in the active document. To use this command, you must have previously copied or cut a block. Click on the Paste command. Paste in the toolbar or press the Ctrl + V keys.

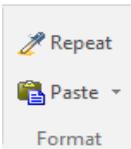
Paste in Place



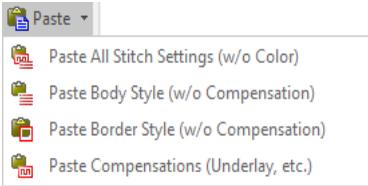
This command copies the clipboard content in the active document, but exactly in the same place of the copied object (original).

Yet, there are certain image creation applications that allow you to copy an image file type you are working on (Windows Metafile, EMF, etc.), to the Clipboard. This is recommended for certain sketches with a high level of elements, or when it is necessary to obtain more precision (better level of detail). You may then paste it in Embroidery Office using these commands.

Format

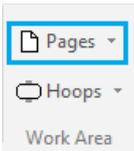


Repeat command lets you pick up an object's properties and copy them to another object of the same kind. Press *Repeat* command, the cursor will turn into a dropper. Click on an object to pick up its properties. The cursor will turn into a bucket. Click on another object and the properties will be pasted over the new object.

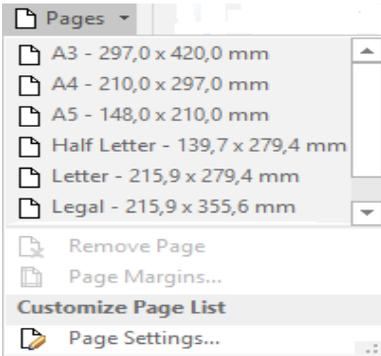


Paste command is similar to the Repeat one, but when the cursor turns into a bucket, select an object and instead of clicking over it, go to Paste and select one of the available commands.

Work Area (Pages and Hoops)

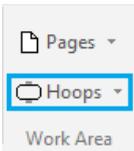


Pages allows defining the work area as a printer/cutter sheet type (A4, Letter, etc.).



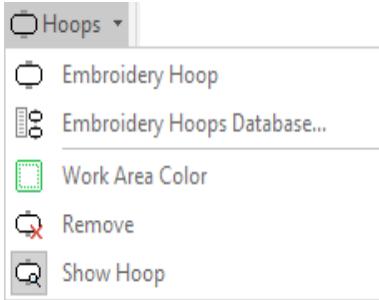
Click on the arrow to the left of the Pages button to unfold the available options.

You can also make a new one with your own dimensions on "Page Settings".



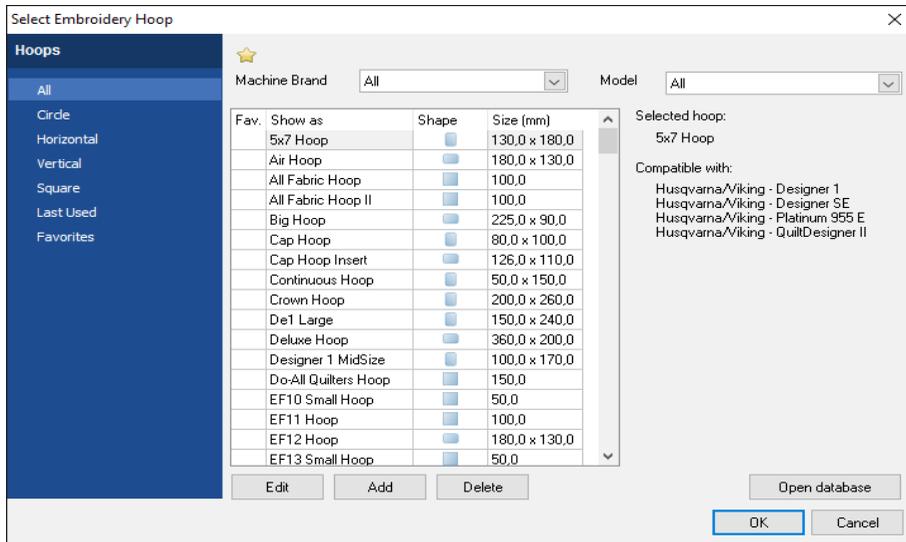
Hoops allows you to display in the workspace an schematic representation of the hoop you will use at the time to embroider the design.

Displaying the hoop on screen gives you the chance to check if design will fit in the hoop area safely, avoiding needle breaks and machine incidents, and to fix its position if required.



Click on the arrow to the left of the *Hoops* button to unfold the available options.

From *Embroidery Hoop*, you can select one of the available ones.



Once selected press OK and use the *Show Hoop* command located in the *Home* ribbon > *Work Area* group > *Hoops* button, to turn the hoop on/off.

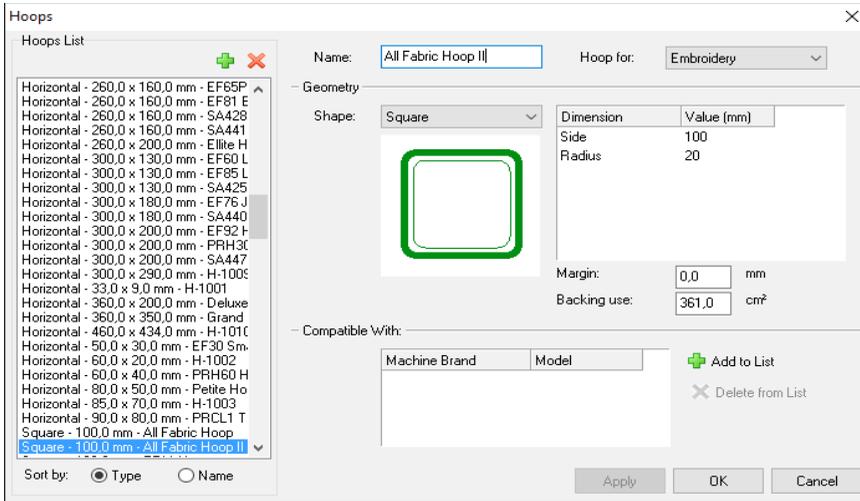
Creating new hoops

If the one you need is not among the ones available, go to *Embroidery Hoops Database*, and create one on your own.

Use the Add command (the button with a + sign located above the list at the left) to add a new hoop. You will need to specify a name, brand and code (it will help to keep your hoop

database well organized) and, of course, the basic shape and size.

You can also specify a safety margin, that will be displayed as a dotted line around the hoop, and will prevent you to place stitches too closer to the hoop edge. Even more, if you own several machines, you may add a reference to later help you identify what machines can use the hoop, by filling the list “Compatible with”.



Output options



These options allow you to quickly access the commands that are necessary for gathering information on the design you are making; saving and printing it; and sharing it by e-mail or through the social networks.



Gives important information about the design. Already mentioned in this chapter, Page 7.



Save File: Save the Design Document (DSG files).

Save as...: Save a copy of the working window with another name.

Save Selection: Make a block of sections and save a document (DSG file) with only the sections that correspond to that block.

Save Motif: Create a motif (*.motif file) out of a design you created. You can also use a block of sections instead of the whole design. Use the motif from the Catalog (page 32).



Allows you to print your design in a standard way or with different styles. Already mentioned in this chapter, Page 16.



Allows you to print your design in a standard way or with different styles. Already mentioned in this chapter, Page 11.

System options

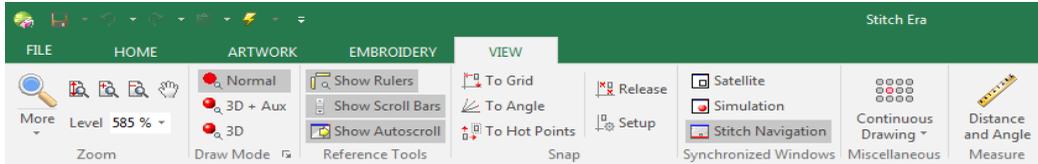


You can run *Embroidery Explorer* from this option. It's a very useful software for managing your embroidery business.

System Settings gives a quick access to the *Preferences a Setup* window. The other way is from *File Page > Options group > Preferences and Setup*

The View ribbon

The View ribbon contains all the commands needed to control how your designs will be displayed on screen. It gives access to the basic Zoom tools, visualization mode (Normal – 3D), lets you enable / disable reference tools and synchronized windows (Satellite, Simulation and Stitch Navigation), etc.



Zoom Tools

The Zoom group contains all the zoom and panning commands you will need to work comfortably on screen. However, some frequently used zoom tools are always available below the ribbon independently of which one is active (on top of the main work area) and, if available, through the mouse wheel.

Zoom Area (F6)



This is a versatile tool with several functions. The basic one lets you define a rectangular region on the workspace and magnify it to the largest possible size. Just select the tool, move the pointer over the workspace, click and drag diagonally to define the region to be magnified. When you release the button, that area will be shown to the largest possible size.

A second function within this tool is a dynamic zoom mode: Once the tool is selected, hold the Shift key pressed (the pointer shape will change), move the pointer near the center of the design detail you want to zoom and drag up and down. The design will be zoomed in and out, following your mouse drag dynamically.

The third function is triggered with the Ctrl key: when you hold this key pressed, your drag will be interpreted as a panning command. You can alternatively use the Shift and Ctrl keys to perform one or other actions.

Even more, the Zoom Area button is a little special one: If you click near the arrow sign below the label More, it unfolds a menu with several more zoom tools. We will mention them later in this section.

Zoom Total (Ctrl+F6)



This tool considers all objects in your design and calculates the necessary zoom factor to produce a view where all of them are shown in your screen.

Pan



Pan is the action of moving the viewable area so different regions of the design appear on the screen. The result is similar to what you get when using the scroll bars. Note that the physical design position does not change at all, just the region you are viewing changes.

To use the Pan command, you have two different ways:

- a) Select it from the auxiliary toolbar, move the pointer over the workspace and drag. The tool will not remain active when you release the mouse button;
- b) From Reference Tools, click on Show Rulers. Now place the cursor over the ruler, it will change from an arrow to a hand. Click and move the mouse. You will see that the workspace and ruler move in the direction you move the mouse.

Zoom In – Zoom out



Zoom In (+) allows a more detailed (closer) view of the design, while Zoom Out (-) produces a less detailed view, (more distant)

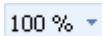
Both tools work with a predefined factor you can set through File – Options - Preferences Setup – Workspace – Zoom.

Zoom in-out using the mouse wheel



If your mouse has a center wheel, you can use it to zoom in and out. Just move the pointer to the region you want to keep visible and rotate the wheel clockwise or counterclockwise.

Zoom Scale

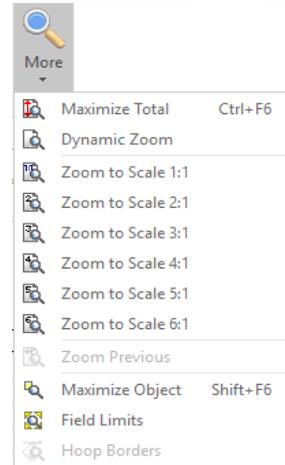


This control allows you to set the main view to a given predefined scale. Please, note that you need to calibrate your screen to get accurate results. See Calibrate Rulers, later on, in this chapter.

More Zoom options

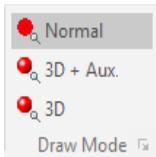
As mentioned, more Zoom options are available when you unfold the menu using the arrow in the main Zoom button:

- Zoom commands to several predefined scales.
- Zoom to selected objects
- Zoom to previous view
- Zoom to design limits



Draw Mode

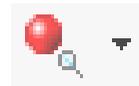
Normal mode



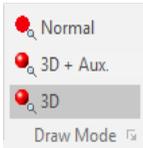
The main view can display your designs in three modes: the standard or *normal mode*, the 3D and the 3D + Aux.

The normal mode provides an schematics representation of the design, where all the elements (stitches, entities contours, etc) are drawn with lines of the same thickness.

You can switch the view mode using the controls in the group *Draw Mode* or using the corresponding button on the Auxiliary toolbar, located above the workspace.



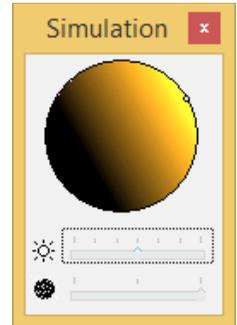
3D mode



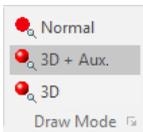
It is a 3D embroidery simulated mode, where the design is displayed in a very realistic representation, that provides a good feedback about what its final appearance will be.

3D mode can be tuned to match your preferences and to get the most realistic view possible. Click on the arrow on the lower right corner to display 3D Light and Quality settings.

A small box will display, with controls to set light direction (drag the small mark in the edge of the shaded circle), contrast and simulation quality (more quality means lower display speed, but modern video hardware allows you to work comfortably even at top quality).

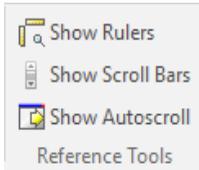


3D + Aux. mode



It is the same as the 3D embroidery simulated mode, but it also shows the image used as reference for designing. Shortcut for this function (F7).

Reference tools



During the creation or edition processes, you may need some geometric references to ensure the design fits a predefined size, or keeps an specified layout. Also, you may need some tools to help you move along your design without making too many clicks and wasting time. These are sets of graphic elements that will help you with these tasks.

There are three Reference Tools:

Rulers: You enable two of them, one horizontal and the other vertical. You can display Metric or English units. They help you get an idea of the design's size.

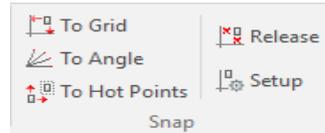
Scroll Bars: You enable two bars (horizontal and vertical) with a slider. Moving the slider will move all the work window in the direction you move the slider. It doesn't modify the image at all.

AutoScroll:  All around the main view, between the workspace itself and the rulers, there is a region called auto scroll region. Just clicking on that area will trigger a pan action into a direction set according with the edge clicked.

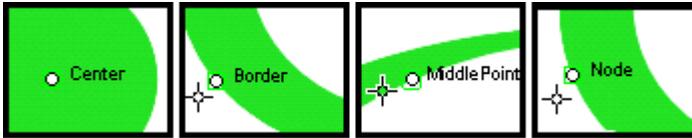
Moving the pointer away from the scroll region will stop the panning. Panning speed and size of the auto scroll region may be controlled through File – Options – Preference Setup – Workspace – Auto scroll page.

Snap Modes

The snap tool restricts the placement of design object elements to predefined points, such as, grid points, other objects singular points, etc. The snap mode is useful to create geometric shaped objects or to perfectly connect objects. You can activate the snap tool for creation and/or for edition.



The Snap to Grid and To SubGrid modes restrict elements placement to grid and sub-grid points respectively. The Snap To Hot Points allows you to place elements exactly at the middle point, center, border, etc of an existing object: just moving the pointer near a singular point will display an small legend and the mouse pointer will be trapped by the singular point like it was "magnetized". Observe the following picture:



To specify what hot-points are enabled, select, *To Hot Points* and then click on *Setup*.

The Options and Preferences Snap page will be displayed and you can set what type of singular points should be recognized.

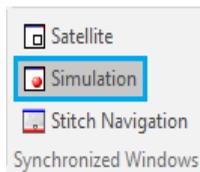
Enable or disable the different modes (To Grid; To Angle; To Hot Points) by clicking on the desired button in the *Snap* group.

The sub grid must be enabled from the Auxiliary bar, clickin on the Show Grid arrow, and then on Grid Settings.

To disable any of the snaps just click on the “Release” button.

Synchronized Windows

Simulation View

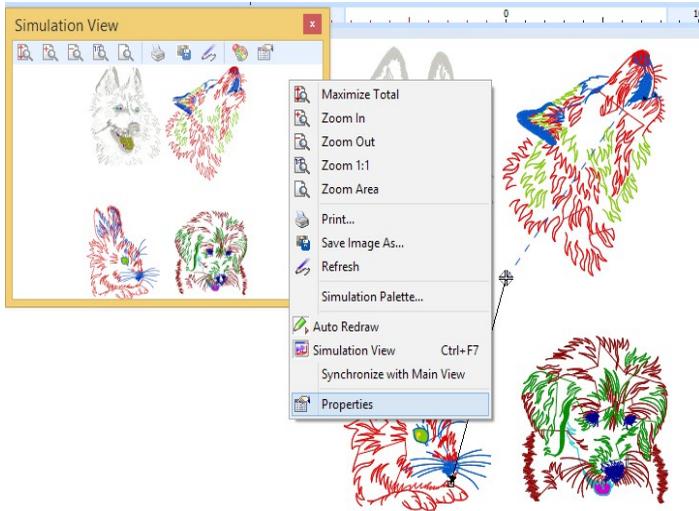


The simulation view is a floating window that displays a realistic simulation of the design. Due it is separated from the main view, you can keep the simulation view opened, displaying a region of the design while the main view displays a different region.

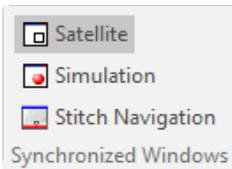
Both views may work synchronized, so, the simulation view reflects, almost immediately, the changes made in the main view.

The simulation view has a tiny toolbar that let you to use some zoom tools, set simulation preferences, adjust thread colors (allowing to use an special palette) and print the simulation.

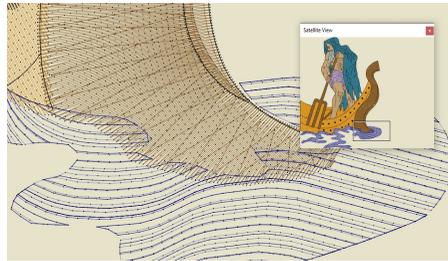
All these commands are also available in the Simulation View context menu.



Satellite View



This floating window provides, all the time, a complete view of the design and adds a graphical reference to give you feedback about the region currently displayed in the workspace. The examples below show the workspace with the Satellite opened in two different situations. Note the small rectangle inside the Satellite view, indicating the region of the design currently displayed in the workspace.



Satellite view is synchronized with the Main view: if you change the zoom level or pan the Main view, Satellite will be refreshed properly. You can also pan and zoom from the Satellite view: dragging the rectangle (start drag from its interior) will produce a pan action in the Main view and, dragging the rectangle edges, will produce a zoom action in the Main view.

Stitch Navigation

At the workspace lower region you will find a very useful control called Navigation Bar. Along the bar, the sequence of stitches of your design is represented, in the order they will be embroidered by the machine.

The lower slider controls, lets you explore this sequence: Try dragging the slider. You will note that stitches before the slider (in terms of embroidery sequence) are drawn normally while the ones after the slider are dimmed. This way, moving the slider left and right you can observe your design sequence clearly.



To help navigation even more, an special toolbar that appears when you click the navigation button, allows you to move the slider by 10 and by 100 stitches, among colors, among entities, etc.



A- Show/Hide Navigation Bar extended controls

B- Stitch Sequence bar.

C- Navigation cursor (or slider)

D- Edit Stitop command: when pressed, the system selects the stitch pointed by the navigation cursor and enters stitch edition mode.

E- Navigation Bar Extended Control (by 10 st, by 100 st, by functions, by colors, by entities, beginning and end)

F- Transparency. Allows you to control how much dimming is applied to the portion of the design after the cursor.

G- Play/Stop: lets you execute a design redraw, from first to last stitch, at a controlled speed.

H- Speed control

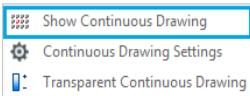
I- Slider to control de design zoom

Miscellaneous

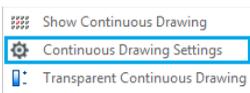


This button allows you to set the options for visualizing how a design in continuous working mode would be like without the need to take it to the machine.

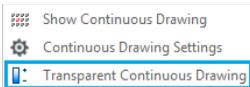
Click on the arrow button to unfold the options menu.



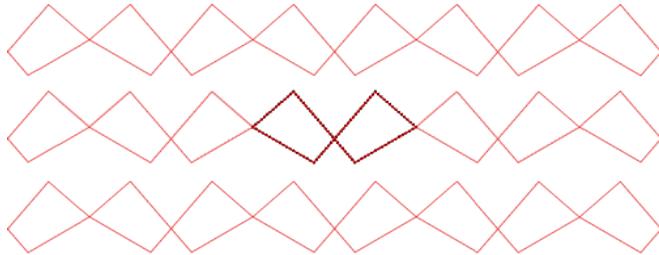
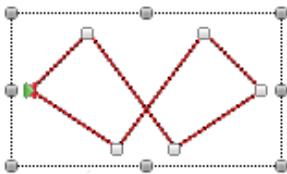
Enables/disables the visualization of the continuous drawing of the design.



Allows you to configure the horizontal and vertical spacing of the objects.



Move the slider to modify the transparency of all the objects except for the original one.



You can make a visual repetition of your design on both horizontal and vertical axis.

The idea of this tool is to give a very real result of how your design is going to be, with no need of taking it to the embroidery machine to test it and adjust parameters.

You can set up the distance between designs for both axis.

Modify the parameters until you are satisfied with the results. Remember to write down the values used for that particular design.

Measure Tool



In the *View* ribbon > *Measure* group, you will find a tool to measure objects on screen. Just click on the button to activate the tool, move the pointer to one end of the object to be measured and drag towards the other end. An on-screen transparent label will follow your mouse movements, showing distance measured, angle and horizontal and vertical coordinates. To exit the tool, press the Esc key.

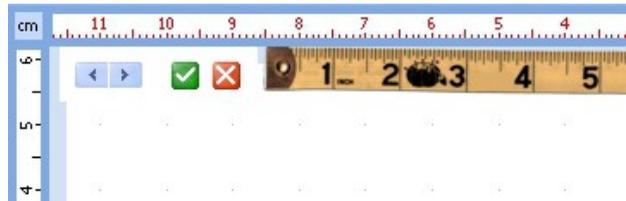
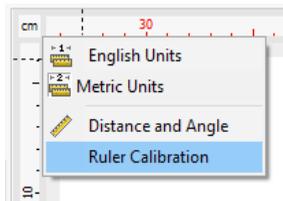
If Show Rulers is enabled, you can quickly call this tool by picking it up from the menu that appears when you click the small box with the measurement units legend, located at the upper left corner of the workspace (where both rulers cross – See Screen Calibration).

Screen Calibration

Some zoom tools are related with a scale, like zoom 100% (or 1:1). So, when you use this kind of tools, the objects in your screen should have true size, that is, if you measure them with a real ruler placed over the screen, it should measure the same the system indicates.

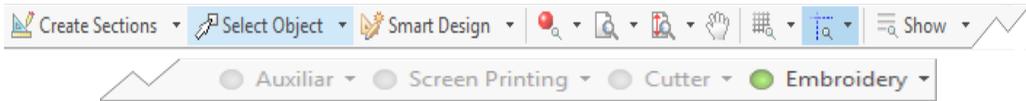
To accurately do this, it is required to calibrate your screen. You will need a real ruler (a soft one, made of plastic is better). Follow this procedure:

- 1- Click the icon located at the upper left corner of the workspace, the one with the measurement units legend in it, and select Ruler Calibration from the menu.
- 2- Put a real ruler over the screen, below the system horizontal ruler and aligned with it.
- 3- Click the arrow button to get a match between the marks in real ruler and the marks in the system ruler. Then click the green button. Your monitor will be calibrated.



Auxiliary Toolbar

Below the *ribbon bar* and on top of the *workspace* you will find this bar, where you have some useful functions handy like Create Sections; Select Objects; Smart Design; Zoom tools; and some visual aids like guidelines, grid and subgrid; object guides and hide/show commands (first figure). On the right side of this bar there are some “traffic lights” to show/hide/block different object layers (Auxiliar; Screen Printing; Cutter; Embroidery) (second figure).

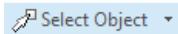


Create Sections



This button gathers all the tools that are available for creating an embroidery (depending on your system level). Click on the arrow to unfold the list of tools. The creation tools are explained in Chapters 8 and 10.

Select Object



This tool allows you to select an object or block of objects, which can be raster images, vectors, or embroidery objects. Then you can make modifications on the geometry (expand, reduce, rotate, mirror, etc.). In the case you have edited an embroidery object, you can access its properties, like color, underlay, pull compensation, outline, etc.

A large set of selection tools is available from the Select Object menu, to be able to create your blocks. Please refer to Chapter 8, page 35 where the selection tools are explained in detail.

Smart Design



This working mode accelerates the activities related with the objects creation and edition, as well as some functions related with auto-digitizing (auto-complete).

The Smart Design tool includes the different types of objects with their

respective fill modes.

It will be explained in Chapter 11 - The Smart Design Tool.

Other visualization tools.



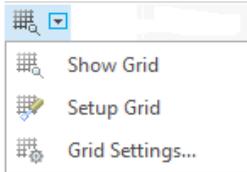
These were explained in Zoom Tools, page 36 in this chapter.

Grid



The *Grid* command controls the visibility of a set of small, equally spaced marks on the workspace. These marks allows you to accurately place objects within your design. You can control many aspects of the grid, such as the distance, mark shape, color, etc. Use the Grid button to turn on/off grid visibility.

Grid setup



Grid customization controls are displayed when you click on the arrow button. Show grid lets you hide/show the grid. A basic and interactive size setting is available with the command *Setup Grid* and a detailed configuration is accomplished through the *Grid Settings...*



Setup Grid: Turn on the grid and then select *Setup Grid*. The mouse pointer will change into a ruler shaped one, and when you drag, the grid size will change following your mouse movements. This method is useful when you need to set the grid distance matching the size of an object displayed in the screen, such as a detail in an image.



Grid Settings...: This command pops up the Options box, with the grid page selected. You will find controls to set the grid position (grid displayed above or below the objects), style, color and size. You can also set a sub-grid, allowing a set of closer sub-marks be displayed inside the main grid marks.

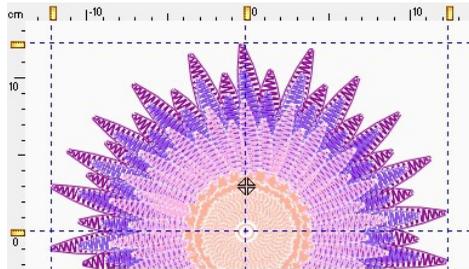
Guidelines



We call Guidelines to a set of auxiliary vertical and/or horizontal lines you can set to help with object alignment and placement.

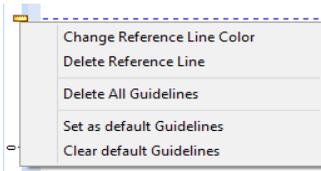
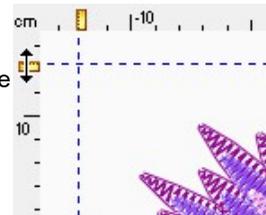
To add a Guideline, use the following procedure:

- 1) Move the mouse pointer over one of the rulers (vertical or horizontal)
- 2) While keeping the Ctrl key depressed, press the mouse left button and drag towards the workspace. A guideline will appear and follow the mouse pointer while you drag.
- 3) Once the pointer reaches the position you want, release the mouse button.



Repeat the operation for each guideline you want to add.

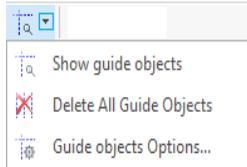
If you need to change a guideline position, just move the pointer over the corresponding icon located over the ruler, and drag it.



Using the mouse right button over the guideline icon, opens a context menu with a group of commands. You may remove one or all guidelines, set a guideline as default and change the guidelines color.

Guide setup

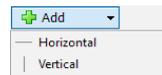
Guide customization controls are displayed when you click on the arrow button. Show guide objects lets you hide/show the guidelines.



Using the *Guide Setup – Delete All Guide Objects*, you can quickly remove all the guidelines.

Having the Guidelines enabled, the command *Guide Setup – Guide objects Options...* pops up the *Guidelines Editor* window.

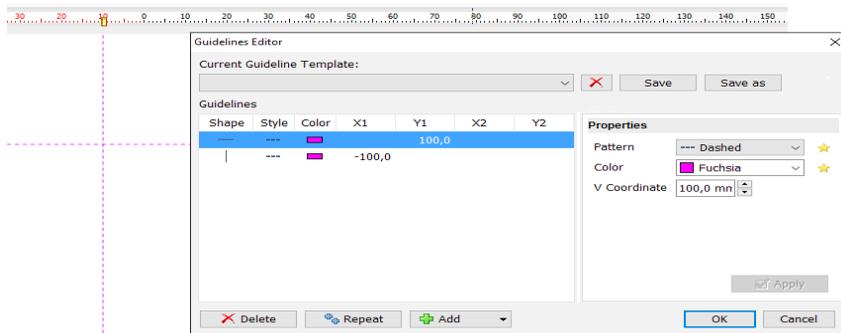
From this window, you can achieve a precise location of the guidelines you made. To modify a guideline, just click on it to select it, change the coordinate and press Apply.



Also you can add new guidelines from the Add button. Select the type you want, insert the coordinates, choose a color and press Apply. The new guideline will appear on the screen.

To delete a guideline, click on it to select it, and click on Delete.

You can also save your current guideline disposition as a template for a later use.



Show/Hide design references



We call Design References to a set of graphic elements that improve design visualization. This set contains the controls required to turn on/off these elements.



Solid Vector : Shows the solid (complete) vector or just the outline of it.



Show Marks: Show/Hide the needle marks (an small graphic element that signals the needle penetration point.)



Show Stitches: Controls stitches visualization. In complex designs, with many overlapped objects, it is very useful to be able to hide the stitches and see only the references.



Show Sections: Show/Hide entities wireframe. Sometimes, specially during the finishing tasks, is usefull to view just the stitches, hiding all other references.



Show Connectors: Show/Hide thread connections between entities.

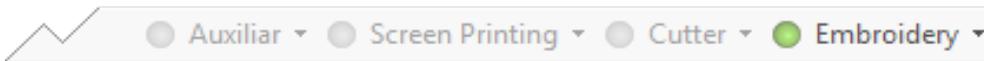


Show Commands: Show/Hide graphic indicators for machine functions or machine controls such as, color change, thread trims, etc.



Show Design Start/End: Show/Hide special screen symbols to indicate designs start and end points.

Traffic Lights



These coloured led buttons allow you to show, hide, or block different object layers (Auxiliar; Screen Printing; Cutter; Embroidery).

Auxiliar



Allows control over Images used as reference for design creation.

Click on the *Auxiliar* button to toggle between *Hide* and *Show* image. When image is shown, led will be *green*; when image is hidden, led will be *red*.

Click on the *arrow* to visualize the other available options:

 Hide Auxiliar Objects

Turns off all reference images. To turn them on, just click over the auxiliar button again. Light will change from *red* to *green*.

 Lock Auxiliar Objects

Locks all reference images. This means that you cannot select them. Very useful when you are digitizing and do not want to move the image or select it by mistake. To unlock them, just click over the auxiliar button again. Light will change from *yellow* to *green*.

 Hide all but Auxiliar Objects

If you have vector images, and/or embroidery objects on screen and you want to leave only the auxiliar images visible. Auxiliar led will be *green* and all the others will be *red*.

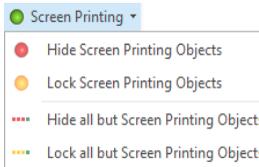
 Lock all but Auxiliar Objects

If you have vector images, and/or embroidery objects on screen and you want to lock them, to be able to work on the auxiliar images only. Auxiliar led will be *green* and all the others will be *yellow*.

When you enable the onscreen simulation (3D), the Auxiliary images will become hidden. To view the auxiliary images again, just disable the simulation view.

If you open the Object Manager to see the Document Map, the changes on the traffic lights will be reflected on it. Locked objects will appear grayed. Hidden objects will not appear on their respective tab.

Screen Printing



Allows control over Images that are part of the final design, for example as background of the embroidery.

When you set an image as screenprinting, it will be showed, along with your embroidery objects, in the simulation window.

Click on the *Screen Printing* button to toggle between *Hide* and *Show* image. When image is shown, led will be *green*; when image is hidden, led will be *red*.

Click on the *arrow* to visualize the other available options:

 Hide Screen Printing Objects

Turns off all screenprinting images. To turn them on, just click over the screenprinting button again. Light will change from *red* to *green*.

 Lock Screen Printing Objects

Locks all screenprinting images. This means that you cannot select them. Very useful when you are digitizing and do not want to move the

image or select it by mistake. To unlock them, just click over the screenprinting button again. Light will change from *yellow* to *green*.

.... Hide all but Screen Printing Objects

If you have vector images, and/or embroidery objects on screen and you want to leave only the screenprinting images visible. Screenprinting led will be *green* and all the others will be *red*.

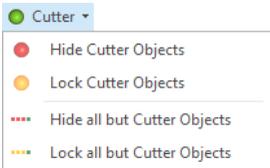
.... Lock all but Screen Printing Objects

If you have vector images, and/or embroidery objects on screen and you want to lock them, to be able to work on the screenprinting images only. Screenprinting led will be *green* and all the others will be *yellow*.

When you enable the onscreen simulation (3D), the Screen Printing images will be visible.

If you open the Object Manager to see the Document Map, the changes on the traffic lights will be reflected on it. Locked objects will appear grayed. Hidden objects will not appear on their respective tab.

Cutter



These figures are the ones that will be sent to the cutter device.

Click on the *Cutter* button to toggle between *Hide* and *Show* image. When image is shown, led will be *green*; when image is hidden, led will be *red*.

Click on the *arrow* to visualize the other available options:

● Hide Cutter Objects

Turns off all *Cutter* images. To turn them on, just click over the *Cutter* button again. Light will change from *red* to *green*.

● Lock Cutter Objects

Locks all *Cutter* images. This means that you cannot select them. Very useful when you are digitizing and do not want to move the image or select it by mistake. To unlock them, just click over the *Cutter* button again. Light will change from *yellow* to *green*.

.... Hide all but Cutter Objects

If you have vector images, and/or embroidery objects on screen and you want to leave only the *Cutter* images visible. *Cutter* led will be *green* and all the others will be *red*.

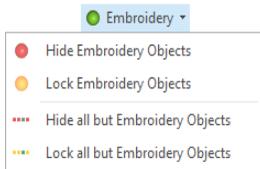
.... Lock all but Cutter Objects

If you have vector images, and/or embroidery objects on screen and you want to lock them, to be able to work on the *Cutter* images only. *Cutter* led will be *green* and all the others will be *yellow*.

When you enable the onscreen simulation (3D), the Cutter images will be visible.

If you open the Object Manager to see the Document Map, the changes on the traffic lights will be reflected on it. Locked objects will appear grayed. Hidden objects will not appear on their respective tab.

Embroidery



Allows control over the embroidery design objects.

Click on the *Embroidery* button to toggle between *Hide* and *Show* embroidery. When embroidery is shown, led will be *green*; when embroidery is hidden, led will be *red*.

Click on the *arrow* to visualize the other available options:

 Hide Embroidery Objects

Turns off all embroidery objects. To turn them on, just click over the embroidery button again. Light will change from *red* to *green*.

 Lock Embroidery Objects

Locks all embroidery objects. This means that you cannot select them. Very useful when you are working on an image or hotfix object and do not want to move an embroidery object or select it by mistake. To unlock them, just click over the embroidery button again. Light will change from *yellow* to *green*.

 Hide all but Embroidery Objects

If you have raster and/or vector images on screen and you want to leave only the embroidery objects visible. Embroidery led will be *green* and all the others will be *red*.

 Lock all but Embroidery Objects

If you have raster and/or vector images on screen and you want to lock them, to be able to work on the embroidery objects only. Embroidery led will be *green* and all the others will be *yellow*.

If you open the Object Manager to see the Document Map, the changes on the traffic lights will be reflected on it. Locked objects will appear grayed. Hidden objects will not appear on their respective tab.

Color Palette Bar

The Needle Palette

Allows you to determine the thread colors assigned to each needle.



The selected color shows the respective button pressed, defining the active color. In the capture processes (trace method), the selected button defines the color of the next section created.

To modify the section color, select it and click on the desired color's button, in the Color Palette.

This bar allows you to show and hide sections since those sections which main color has been disabled, will be hidden on the main view. This is useful when you are working with many sections, and it is necessary to hide some of them.

To disable colors right click over a color box on the color palette. A cross will appear over its corresponding color number.



The active needle button lets you quickly know which is the needle that will be used to create new objects and, by clicking on it, define its color.



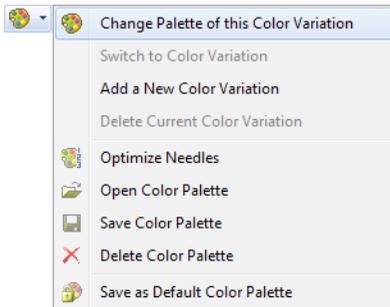
If you click on the arrow to the right of the color palette icon you open a group of functions. Among these you have a function to optimize needles; the possibility of having a color variation, and to be able to save the color palettes for a later use.



The Optimize Needles button automatically arranges the needles sequence without affecting the design.

For example, if you have used needles 2, 5 and 7, the optimization will automatically arrange the sequence to needles 1, 2 and 3, reassigning colors and numbers.

Threads and Colors



This command opens the Color Edition window. From here you have the chance to change each color assigned to your needles, add new colors to the Needle Bar, load Embroidery Palettes, etc.

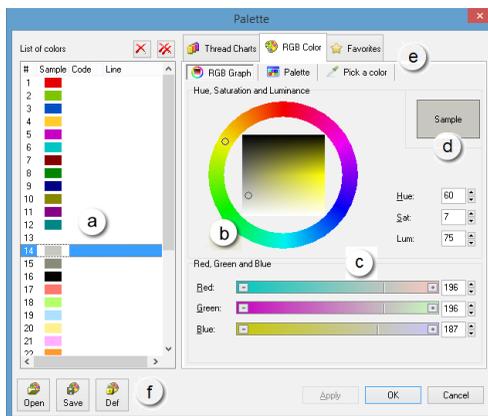
Any change made in the Color window affects only the active document.

The first step is to click on the needle number you want to change in the List of Colors (a).

You can change the Sample color from the RGB Color tab (e), either from RGB Graph option, by clicking anywhere on the color chart (b) or by modifying the RGB or the HSL definitions (c); or from the Palette option, by selecting any of the ones listed; or from the Pick a color option.

An example of the color achieved is shown in the Sample rectangle (d).

You can repeat the operation with all the needle numbers you want to change. Once you have finished the job, click on the OK button to confirm the modifications made.



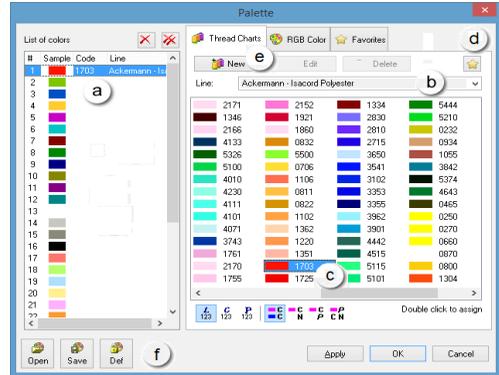
You can also change the Sample color, Code and Line, from the Thread Charts (e);

The first step is to click on the needle number you want to change in the List of Colors (a).

Select one of the available thread lines (b) to visualize its thread icons.

Double click on any color icon to associate its color and information to the selected sample to be modified(c).

The sample color, Code and Line will be automatically changed on the List of Colors.



Selecting the default Needle Bar

An additional function in the Palette box is the possibility to save color palettes, to work with them later, and even personalize the default palette, which is loaded when starting the application. These controls activate from button marked as F in the picture.

You can define a color combination for your Needle Bar, and predetermine that it should be always used by the application. To do so, press the 'Def' button (padlock palette). From now on, the normal application palette will be the one you have just saved as Default.

Choosing from the Favorites Thread Color Chart

As you may have only a limited number of thread cones and even of different lines, Stitch Era allows you to build your own Thread Chart and have it handy using the Favorites tab.

Having a color icon selected, click on the favorites button(b), so that a yellow star appears over the icon selected. The corresponding color icon and its information is copied to the Favorites tab (c).

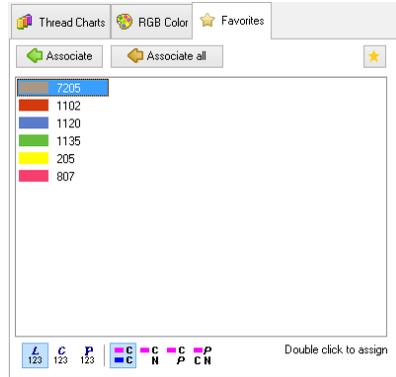
Click on this tab to see all the thread icons you have copied.



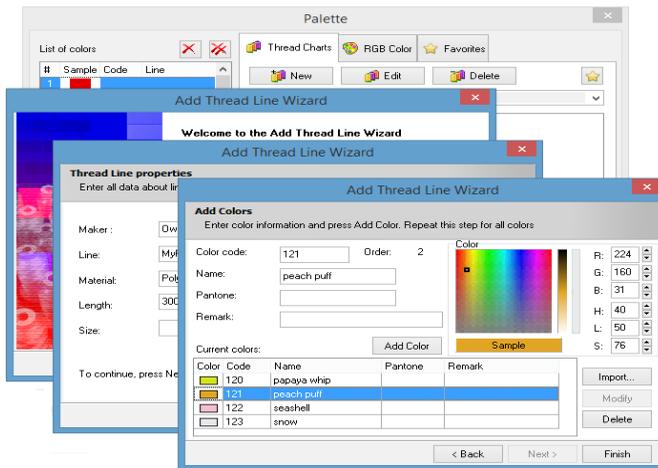
Select a needle number on the List of Colors, click on the desired color icon on the favorites tab, and click on the Associate button. The sample color, Code an Line will be automatically modified on the List of Colors.

You can repeat the operation with all the needle numbers you want to change. Once you have finished the job, click on the OK button to confirm all the modifications made.

If you click on the Associate all button, the system chooses automatically the code which color is more approximate to the one already assigned to the needle.



You can create new personalized thread charts, save them, and load them at any moment. Click on the New button to start the Add Thread Line Wizard.



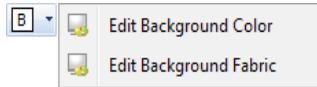
You will be able to enter the information that corresponds to the manufacturer (and its logotype), line, material, length and size, color code, *pantone*, color, etc., while you can choose the shade from a color table or by entering the RBS or HLS values.

From the Edit button (second button) you will be able to edit any thread lines you have already loaded into the system. A table with show the values you defined for each of the colors when

creating the chart. To modify a value, double-click on the corresponding box and change the value.

From the Delete button (third button) you will be able to erase any of the thread lines you have already loaded into the system.

Background color and fabric



The option Background is available above the Palette bar besides the Working Area. This command will let you define the color that will be displayed as background of the design.

Color Background

To set a background color, simply click on the color table. You can also use the RGB or the HSL definitions. Observe the result obtained in the Sample box. Finally, click on the OK button to confirm.

Selecting a fabric as background

Click on Edit Background Fabric to access the window from which you can select a background fabric from the available ones. It simulates the fabric on which the design will be embroidered, and its purpose is to assist the design visually, since it does not modify the stitches.



Once you have selected a background fabric, click on the OK button to select it.

The new background will be visualized when you execute the Simulation View (Ctrl+F7), or the On-screen Simulation View (F7).

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Chapter 3

Stitch Editing

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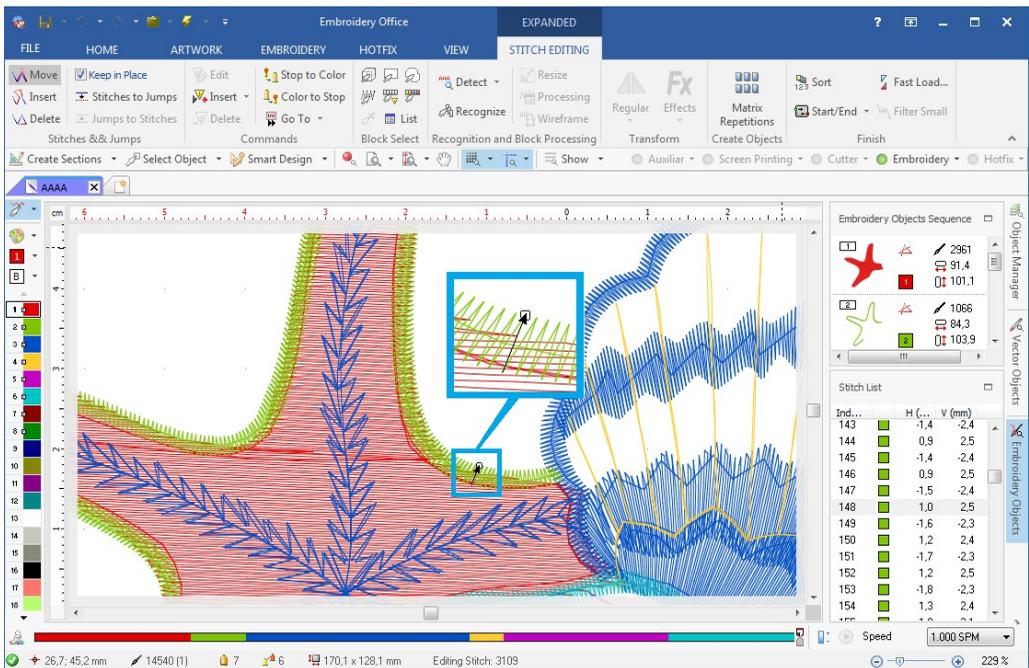
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Working with Stitches

Stitch editing is a specially useful way of working, when you want to edit an expanded embroidery design in Tajima, Barudan, Brother or any of the supported application formats. It is sometimes used on a condensed design (DSG) when a fine tuning needs to be done over certain stitches.



From the File-Open menu, Import group, click on “Open an Embroidery Design”. On the window that comes up, step on a design file in expanded format. Make sure that the option Expanded to Condensed is not enabled (since in that way the design would be edited as sections instead of stitches) and press Open. In this case we will edit the design from the stitches mode.



To select a stitch for its edition, just click on it, either on the Graphic View (Working Area) or in the Stitch List View (Embroidery Objects-third tab on the right of the workspace window).

Stitch Era highlights the stitch, draws a small rectangle and an arrow in its final end.

The square highlights the stitch selected while the arrow indicates the stitch direction.

You may use the keyboard arrows to move along the stitches.

Once you have selected the stitch, you have a series of functions to use over it (move, delete, insert new stitches, etc.). These commands are available from the Ribbon STITCH EDITING or from the context menu.

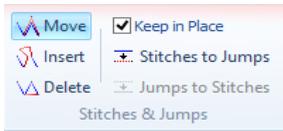
Edit Stitches tool



Once the embroidery design is open, enable the edit stitch mode and step on the stitch you want to work with. After selecting it, you will be able to move it, delete it, create new stitches, etc.

You can create a block of stitches by selecting several stitches. You can make the selection over all the stitches or just on a group of them (contiguous or not contiguous). The selected stitches receive the name of block; on a block you can create effects, apply transformations, etc.

Move Stitches



You move the stitches selected based on two different editing modes: Move with stitch compensation (default mode) and Move stitches without compensation. Remember the following premises, both in the selection and in the stitch edition:

- At any moment you can use the Undo command, which will let you correct any mistake made during the work with stitches.
- Remember that you can use the auto increase and auto decrease modes during the edition.

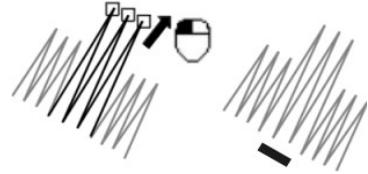
Move (Keep in Place enabled)

To move the selected stitch, drag (without releasing the mouse button) the point to the desired position.



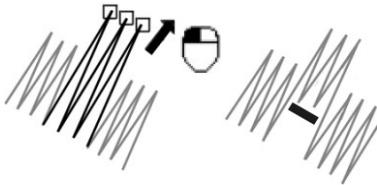
Stitch Era will automatically compensate the design, in a way that the resulting effect will be to move the stitch point, without altering the rest (see right figure).

This mode, also called Move with compensation, will be enabled until you decide to change it. Move with compensation is the default mode for working with stitches.



Move (without compensation)

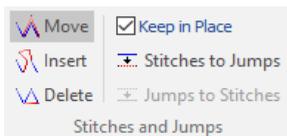
To activate this function, uncheck the box Keep in Place, and then drag the stitches.



This mode allows you to move a stitch without compensating the rest of the design, so that, the rest of the design will be displaced while moving the selected stitch.

Note: Once you enable this mode, the system will remain in this way of work until you change it.

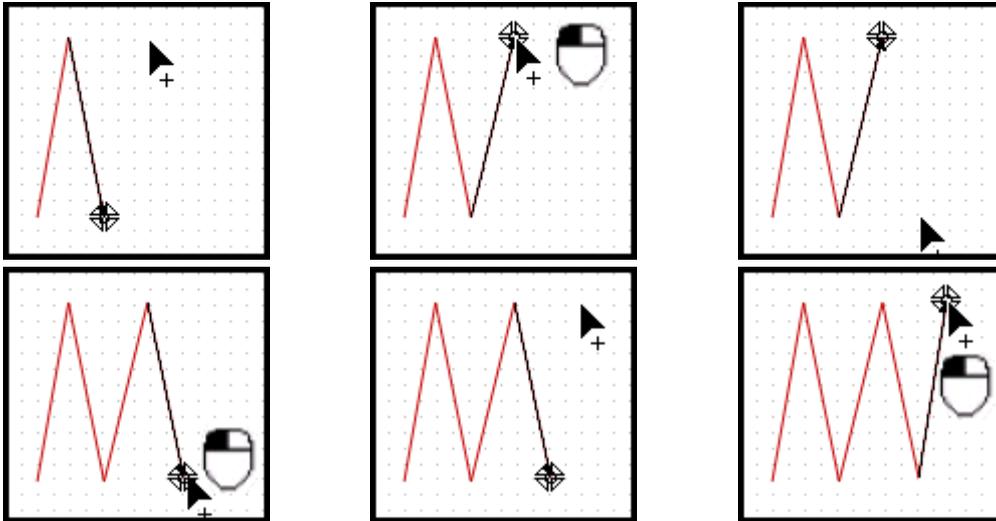
Insert stitches (Keep in Place)



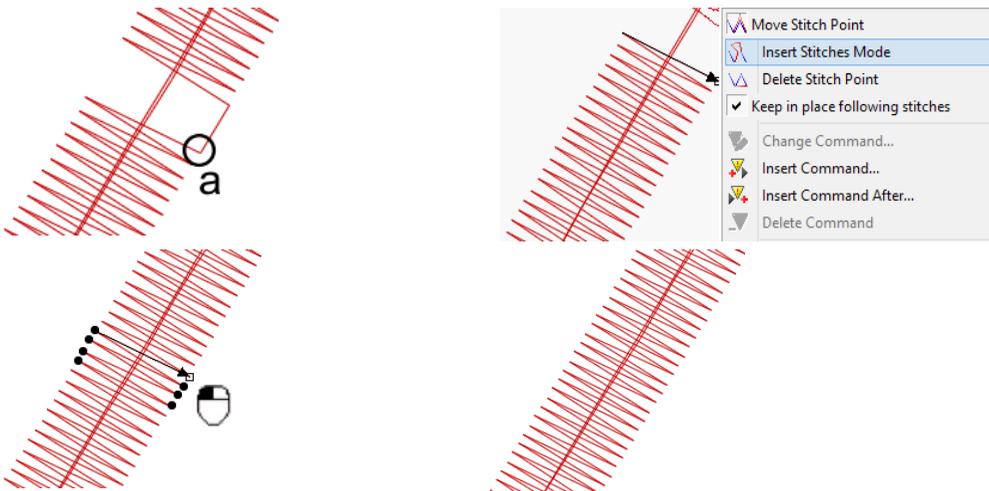
Once you select the stitch from which you will start the insertion, enable the Insert Stitch command and click on the places where you want to establish the stitch points of the new stitches.

Examples:

In the following sequence of figures you can see an original embroidery design made out of three stitches that form an inverted “V”. Note that starting from the last stitch; each mouse click inserts a new stitch making a column of stitches.



In the following sequence you can see a column made out of Zig-Zag stitches. Note that the uniform shape of the column is “broken”. When inserting stitches starting from the stitch marked as (a), you establish the necessary stitch marks to complete the entire figure.



The application will compensate the design at all times to avoid the displacement of the remaining stitches. When you finish the insertion, use the Enter command from the context menu.

Insert Stitch without compensation

Take the check off the Keep in Place box and click on the places in which you wish to establish the stitch marks of the new stitches. This command is similar to the previous one but in this case the new stitches will have no compensation.

Delete Stitch (Keep in Place)



Use this command to delete the selected stitch keeping the rest of the design compensated. You can activate it from the Delete Stitch Command or directly pressing the Delete key.

Delete Stitch (without compensation)

In similar way as in the previous case, this command allows to delete stitches but without compensating the rest of the design. It is activated from the Delete Stitch command.

Toggle between jumps and stitches



You can convert a jump stitch to a stitch and vice versa. Select the element to convert from the Stitch List View and activate the desired function (Convert Jumps to Stitches or Stitches to Jumps), so that the selected element will be converted into the opposite (either a jump or a stitch).

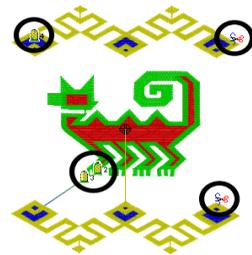
Note: Remember that a jump stitch corresponds to a panto-graph movement along with the head rotation without the needle going down. It is used to move the head from one design point to another, or to create stitches that are longer than the ones allowed by the machine.

Working with Machine Functions



Controls, also known as machine functions or machine commands, are used to tell the embroidery machine in which way a design should be embroidered. Different machine brands have introduced their own controls.

From the Edit Stitches command, you can apply several controls: color changes, thread cuts, speed changes, borer start or end, sequin insertion, etc. You will also be able to modify the controls applied or delete them.

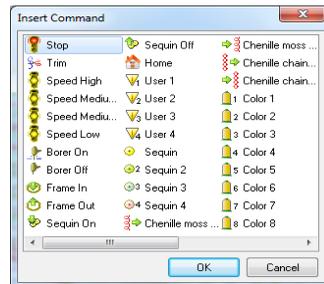


Note: See on the right figure how controls are visualized in the Graphic View; they have been circled for a better identification. Remember that the embroidery machine must recognize the command so that it can be executed at the time of embroidering.

Edit Command



When the selected stitch is a control, you can use the Edit Command function, with which you will be able to change the command type.



Insert Command



This command allows you to insert a control before the selected stitch.

Activate it from the Insert Control option. From the Insert Control function menu select the command you want to insert.



Delete Command



You can delete controls by using the Delete Command tool. Step on a control, and click on this button or press the Del key.

Toggle between Stops and Color Changes



You can convert stop controls in color changes and vice versa. Simply select the control and activate the desired function.



When activating any of these functions, all the color changes or steps (according to the command selected) present in the embroidery machine will be converted in to their opposite control.

Go to (stitch)

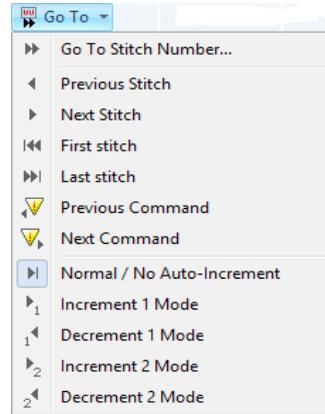


The following options will be available while you are selecting or editing stitches:

- If you know the number of the stitch you want to select, use the command Go To Stitch Number and insert the stitch number.
- If you want to select the first or last stitch, use the

commands First Stitch / Last Stitch.

- If you want to select a Control, toggle between the commands Previous Command or Next Command.
- Use the commands Increase / Decrease Mode (in 1 or 2 stitches) to make the application automatically select the stitch that is before or after (+1 / -1 or +2 / - 2) the selected one.



Stitch Blocks



A block is a group of stitches, selected to operate over all of them at the same time.

The procedure to operate with stitch blocks consists basically in:

1) **Select the block:** *Stitch Era* has several and versatile ways of selecting blocks of contiguous and not contiguous stitches, using the traditional methods (rectangle, outline, color, etc.) and the advanced ones like range, sections auto-detection (running stitches, Zig-Zags, patterns), etc.

2) **Work with the block:** Once you have selected a block, you have a powerful group of commands to work with it to move it, rotate it, deform it through different effects or changing features such as Zig-Zags widths, density, pattern fill type, etc.

Selecting blocks

Select All



Use this command to select all the stitches, so that a block with the entire design will be formed.

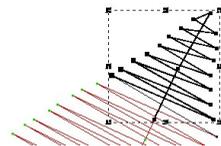
Select by rectangle



Through this selection mode a block is formed with all the stitches that are totally inside a rectangle.

To make the selection, follow these steps:

- 1) Activate the command.
- 2) Mark the first corner of the rectangle by clicking on the graphic window.
- 3) Drag the mouse without releasing the left mouse button, and a dotted rectangle forms. Direct the cursor so that the rectangle encloses a design sector (upper right figure), including the zone that contains the desired stitches, only then release the button.
- 4) If the block has no-contiguous stitches, check the ranges of your interest in the Block Conformation box, and click on OK.
- 5) *Stitch Era* will form a block with the selected stitches, which will be highlighted, and with a square surrounding them.



Note: Remember that the Block Conformation, also known as the Block List, appears only if there are groups of non-contiguous stitches.

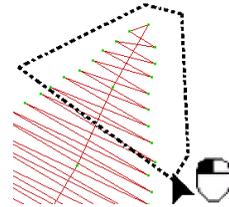
Select by outline



This method allows you to create a block with the stitches that are included inside a polygon that you define. To make the selection follow the procedure described below:

Sel	From	To	Stitches	Kind
<input checked="" type="checkbox"/>	1739	1742	3	Red
<input checked="" type="checkbox"/>	1744	1792	48	Red
<input checked="" type="checkbox"/>	1873	1901	28	Green
<input checked="" type="checkbox"/>	1929	1957	28	Green
<input checked="" type="checkbox"/>	3290	3351	61	Yellow
<input checked="" type="checkbox"/>	4176	4182	6	Cyan
<input checked="" type="checkbox"/>	4205	4259	54	Cyan
<input checked="" type="checkbox"/>	4319	4322	3	Red
<input checked="" type="checkbox"/>	4338	4352	14	Red
<input checked="" type="checkbox"/>	5153	5214	61	Red
<input checked="" type="checkbox"/>	5359	5396	37	Green

- 1) Activate the command.
- 2) Mark the outline's starting point by clicking on the Graphic View.
- 3) Click on different points, and observe how they are connected through straight lines to form a polygon.



- 4) Once the polygon includes the desired area, open the context menu and click on Accept / OK, or simply press the Enter key. *Stitch Era* will create a block with the selected stitches.
- 5) If the block has non-contiguous stitches, check the ranges of your interest in the Block Conformation box. Remember that this box is also known as Block List, and appears only if there are non-contiguous groups of stitches.
- 6) The modifications will be applied to the design.

Select Start and End of Block



Click on the last stitch of the block and afterwards on the first stitch of it. Then open the context menu and press Accept / OK or ENTER to close the block.

Block separated by Controls



They are a group of contiguous stitches separated by machine controls. Activate the command, select this mode and click on a stitch in the Graphic View. *Stitch Era* will form a block with all the stitches between the selected one and the previous control; and between the selected one and the next control.

Pointed Color



They are a group of contiguous and non-contiguous stitches of the same color.

Activate the command, and click on a stitch of the desired color. *Stitch Era* will form a block with all the stitches of the same color (contiguous and non-contiguous).

Clean selection



Use this command to unselect the active block.

Block List



When you select any of the detection tools, it is possible that the block created includes groups of non-contiguous stitches.

In those cases *Stitch Era* opens the Block List box, where it displays a row with each non-contiguous group of stitches, for you to decide which you want to include.

Those stitches that have not been checked in the list will not belong to the new block. The Graphic View will be updated with the selection you make, so that you can identify each group of stitches in the design.

- The Sel column contains the check boxes you must check or uncheck to form the desired block. Check the boxes of the desired rows to form a block with them.
- From and To columns indicate the range of stitches that form each of the design's sections.
- The Stitches column shows the number of stitches of each section.
- The Kind column indicates the section type to which the row refers to (the ZZ type correspond to Zig-Zag type sections, RS to running stitch paths and FP to fill patterns).

From the button bar of the Block List, you have the following controls:

Add range



Adds to the Block List, the stitch that follows the last stitch selected, in the sequence of stitches.

Delete range



Deletes the one selected in the Block List from the stitch list

Select all



Forms a block with all the stitches that form the design.

Unselect all

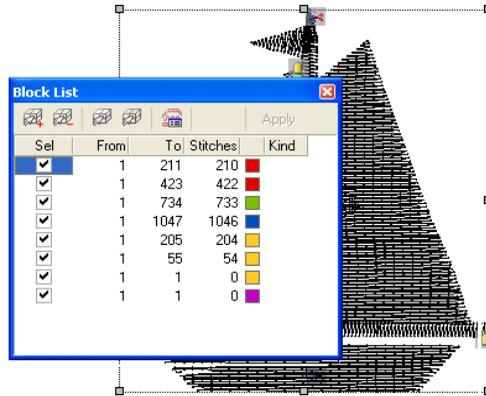


Use this command to unselect the active block.

Detection Parameters



Activates the Detection Parameters box. Click on the Detection Parameters button to open the box explained next. You will be able to configure the automatic recognition values according to the stitch type.



Auto detect stitch blocks



Click on a stitch to activate the Detect button. Click on it to be able to select the type of section you want to detect, or choose the Auto detect All Sections option if you want to find all the design's types or sections of the design.

The options available are the following...

Auto detect all the sections



Stitch Era, in its stitch edition mode, has tools to recognize shapes that will allow you to select blocks in the design with running stitches, Zig-Zags or pattern fills.



Sel	From	To	Stitches	Kind
<input checked="" type="checkbox"/>	3347	3347	0	
<input checked="" type="checkbox"/>	8	16	9	ZZ
<input checked="" type="checkbox"/>	64	94	31	ZZ
<input checked="" type="checkbox"/>	98	124	27	ZZ
<input checked="" type="checkbox"/>	146	158	13	ZZ
<input checked="" type="checkbox"/>	171	176	6	ZZ
<input checked="" type="checkbox"/>	180	185	6	ZZ
<input checked="" type="checkbox"/>	191	218	28	ZZ
<input checked="" type="checkbox"/>	232	245	14	ZZ
<input checked="" type="checkbox"/>	249	268	20	ZZ
<input checked="" type="checkbox"/>	274	343	70	ZZ

Use Detect All Sections to open a Block List, in which the system will list all the sections detected, check the ranges you wish to include in the block. Check or uncheck the boxes of the Sel column to include or not the different sections. The type column shows the type of section to which the row refers to. Once you have selected the desired sections, close the box.

From the Detection Parameters button you can define the values with which the system recognizes the different sections.

Auto detect Running Stitches



Allows you to select a block with the running stitches found in the design.

Auto detect Zig-Zags



Allows you to select a block with the Zig-Zags found in the design.

Auto detect Pattern Stitches



Allows you to select a block with those patterns that form the design.

Adjust the stitch detector



In some cases (low density embroidery or with very irregular stitches), it may be useful to adjust the stitch detector of *Stitch Era*, indicating to be more or less tolerant at the time of detecting the different section types. Activate the Detection Parameters function (circled in the next figure) from the Block List.

Detection Parameters

The Detection Parameter's box has separated sections to be able to adjust the detection parameters for running stitches, Zig-Zags and fill patterns.

The next table summarizes the available controls:

Sel	From	To	Stitches	Kind
<input checked="" type="checkbox"/>	113	121	8	
<input checked="" type="checkbox"/>	3657	3660	3	
<input checked="" type="checkbox"/>	5339	5343	4	
<input checked="" type="checkbox"/>	5347	5350	3	
<input checked="" type="checkbox"/>	5352	5356	4	
<input checked="" type="checkbox"/>	5359	5363	4	
<input checked="" type="checkbox"/>	5367	5370	3	
<input checked="" type="checkbox"/>	5372	5376	4	
<input checked="" type="checkbox"/>	5379	5382	3	
<input checked="" type="checkbox"/>	5386	5389	3	
<input checked="" type="checkbox"/>	5391	5395	4	

Detection Parameters

Default: [Default]

ZigZag

Width: 10.0%

Density: 52.0%

Running Stitch

Stitch Length: 13.3%

Pattern

Fill Line Length: 25.0%

Stitches per Fill Line: 6.7%

Density: 18.3%

Number of Fill Lines: 13.3%

Zig-Zag

Width This control allows you to indicate the minimum width that a Zig-Zag must have to be detected as such.

Density Use this control to adjust the minimum density that a Zig-Zag must have to be detected.

Running Stitch

Stitch Length This control allows you to indicate the minimum stitch length that a running stitch must have to be recognized as such by *Stitch Era*.

Fill Pattern

Fill line length A fill pattern is formed by several parallel pattern lines that we called Fill

Lines (these are the lines whose stitches form the fill pattern). The fill line length control allows you to adjust the minimum length a fill line should have to be considered as part of a fill pattern.

Stitches in the fill line Establishes the minimum number of stitches that a fill line should have to be considered as part of the fill pattern.

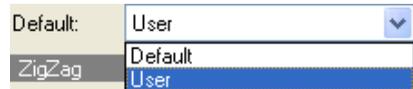
Number of fill pattern lines Allows you to indicate the application the minimum number of fill lines a fill pattern should have to be recognized.

Density Use this control to adjust the minimum density a fill pattern should have to be recognized as such.

While you adjust the parameters you can use the detection buttons available in each section, to verify the result of the changes carried out.

Once adjusted, you can save them using the Save button which is on the right of the drop down list on the top side of the box.

If you want to return to the original parameters, select the Default option in the Predefined drop down list.



If you want to use the last saved parameters, select User.

Multiple Selection

Once you have defined a block (the application draws the block highlighting the stitches and surrounding them with a dotted rectangle), you will be able to add a new group of stitches to it, just by choosing a selection mode and keeping the “Ctrl” key pressed while you define the rectangle, polygon, indicate a section or color, etc.

Having finished the second selection, *Stitch Era* will add it to the first one, forming a new block that includes the selected regions. You can repeat this process as many times as necessary.

Recognize sections



After activating this command and clicking on the desired section, *Stitch Era* will automatically recognize the section and will form a block with its stitches.

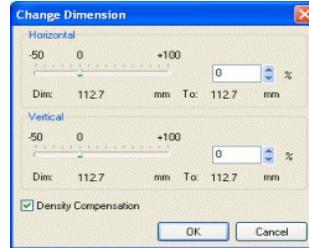
Scale Block



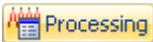
Through this box you can define a horizontal or vertical percentage variation.

To do so, move the horizontal and/or vertical slider, while you observe the measures shown in the box. You can also vary the percentage by typing the desired value in the corresponding box.

Check the Density Compensation box to automatically level the block's density.



Change in Block

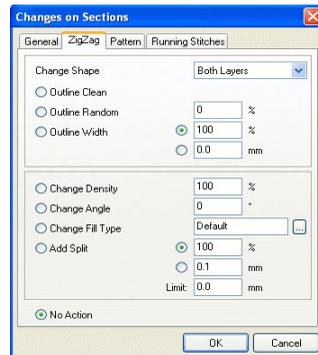


Allows making changes in the selected block, only for Zig-Zag sections, fill patterns or running stitches by themselves, and also to the entire block.

Through the different tabs (General, Zig-Zag, Pattern or Running Stitch) you access the corresponding controls.

General: From this tab, you can filter (delete) the small stitches, according to the value entered. You can also modify the density (in percentage) and the outline (either in percentage or in millimeters).

Zig-Zag: Allows to clean the outline (getting the stitches closer one to the other), specify a random outline value or outline width. All this can be done to either sides or only to one side of the Zig-Zag. You can also modify the general density as well as the Zig-Zag stitches angle, add a division by percentage, or a specific value in millimeters. From the option Change Pattern Type, you can modify the Zig-Zag in the chosen pattern from the drop down list.



Pattern: This tab is similar to the Zig-Zag one. Here you can specify a change of shape, density, or pattern fill type. You can also turn the section to Zig-Zag.

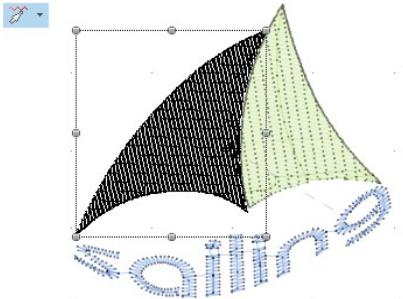
Running stitches: From the option Repeat you can control the number of repetitions for this section type.

Create Wireframe from stitches

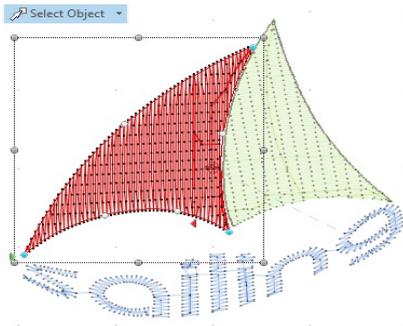


This tool converts the stitches of the selected block into sections. The application automatically recognizes the type of block's stitches and converts each of these stitches type into the most appropriate section type.

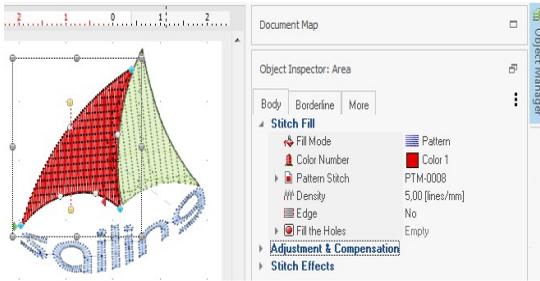
This tool is very useful if, for example, you want to change the properties of the stitches of an expanded design; or the way a group of stitches is created. Next you will find an example of operation.



1) In the left figure you can observe a block of stitches which is formed by all the design stitches in one color. From the “Stitch Editing” ribbon; “Recognition and Block Processing” group, click on “Wireframe”.



2) The result was that the block of stitches was converted into a section. This section was then selected using the “Select Object” tool.



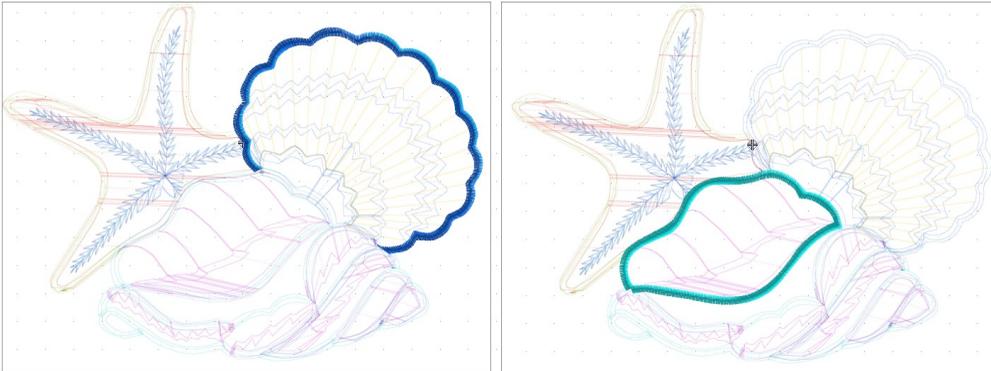
3) The properties of the selected section will be available in the Object Inspector.

You will be able to change all the properties that were not present when being an embroidery file (expanded format).

In the same way, you can work on every section that the application has formed.

Recognizing Sections

After converting an expanded design into sections, you will be able to recognize easily what the application has automatically formed as design sections. Click on the Select Object tool (F11), and keeping the Shift key depressed, move the cursor along the design.



You will then note that all the design's sections are marked as semi-transparent, except for those sections which are pointed with the cursor. You can observe this fact in the figures above.

Block transformation



A block of stitches can be subject of several transformations. To apply any type of transformation, first you have to select a block of stitches (follow the sequence of the Stitch Editing ribbon or general commands).

Once the block selection step has finished, you will have access to a powerful group of tools to work with it. You will be able to:

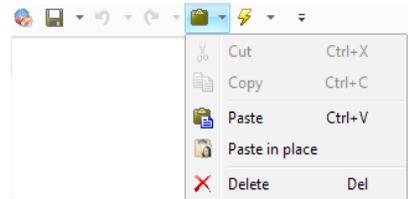
- **Copy, Cut, Paste and Paste Special:** Using the options of the Windows Clipboard.
- **Transform block:** Deforming it regular or irregularly.
- **Mirror / Rotate:** Rotating or mirroring a block horizontally or vertically.
- **Apply effects:** Deforming the block in a way of a lens, whirl, grid, etc.
- **Modify dimension:** Proportionally, keeping density, or disproportional without keeping it.
- **Modify sections:** Changing the sections features: density, number of running stitch repetitions, Zig-Zag width and pattern type.

You will find most of these functions in the Stitch Editing ribbon. In the following paragraphs you will find details on how to use each command.

Copy, Cut, Paste and Paste Special

Use the Copy command to place a copy of the block in *Stitch Era's* clipboard keeping the original block. Use Cut to copy the block to the clipboard and delete it from the design at the same time.

When pasting it in a new document, the block will display in the working area.



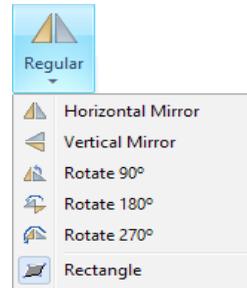
To paste the block in the same design, select any of the Paste Special options: Paste or Paste in Place so as to place the block in the center of the design or after the insertion point. These commands are available in the Quick Access toolbar.

Regular transformation

Horizontal or Vertical mirror

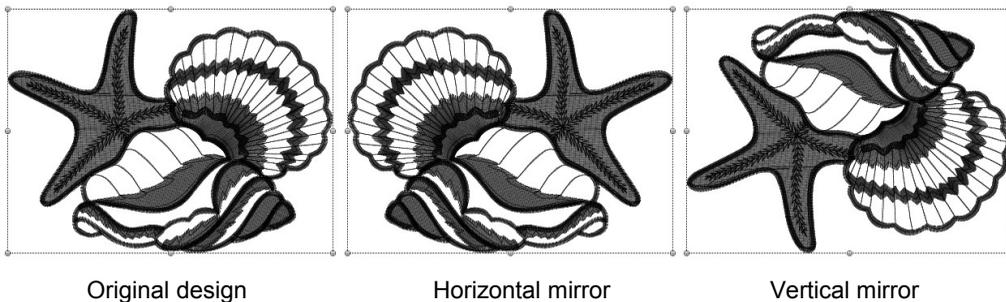
Allows mirroring the defined block according to the horizontal or vertical axis.

These operations are carried out with no need of catching or moving corners or mid points.



Example:

In the following figures, find the original figure on the left; an horizontal mirror transformation of it on the middle; and a vertical mirror transformation on the right.

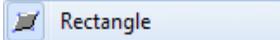


Rotate 90°, 180° and 270°

Allows rotating the defined block, according to a previously set angle. These operations are carried out with no need to catch or move corners or mid points.

Select the rotation option according to the result you want to achieve and then choose the angle you want to apply to rotate the block.

Rectangular Envelope



The regular transformation of a block allows you to change its horizontal or vertical dimension independently or proportionally, to move the block or to rotate it in any angle around a chosen point.

When activating the command the block limits also activate, its four corners and the sides mid points. This is the default mode established each time you finish with the selection of a block.

Observe in the figure on the right, a design in which all the stitches have been selected.

On their sides they are small squares, these are known as block's transformation nodes. There's also a dotted line that limits the block.

In the different operations, the mouse pointer will change its shape, depending on which element it's on (normal node, rotation node, inside of rectangle or rotation center).



The possible operations are the following:

Move blocks



To move a block, simply position the mouse pointer inside the rectangle (the pointer will change its shape) and drag it to the desired position.

You will see that the rectangle moves together with the pointer. When you release the button, the block will remain in its new position.

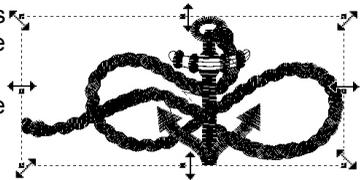
Deform blocks

To deform a block proportionally, click on one of the block's transformation nodes in the corners and drag it to the desired position.

To deform the block in one of its dimensions, drag the nodes placed at the mid points of its sides.

The mouse pointer will change its shape depending on the

corner or mid point you place it

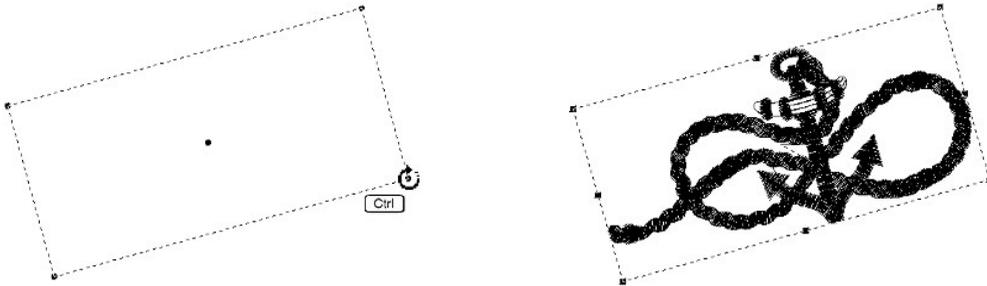


Rotate Blocks

When you press the Ctrl. key you activate the rotation mode. At this moment the four corner transformation nodes will transform, turning into a round shape, while a rotation center also appears.



When pressing the Ctrl key observe that the mouse pointer changes its shape, just then drag the nodes from the corners to rotate the block.



You can change the position of the block's rotating axis before rotating. Remember that by default, the block's rotating axis is located in the center of the block. When modifying the central axis of a block, the figure will rotate on the basis of its new axis position. To do this, you must follow this procedure:

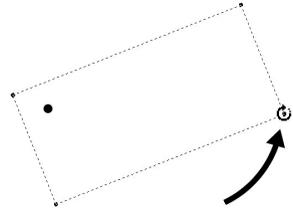


1) Place the pointer on the axis, in the center of the design while you press the Ctrl key, until the pointer changes its shape.

2) Continue pressing the Ctrl key and drag, in that way you move the block's axis. Once you position the axis in the desired place, drop it.



3) After placing the axis in its new position take one of the corners and rotate it. Remember that you should not release the Ctrl. key. The block will rotate on the basis of its new rotation axis.



4) To finish the process, release the Ctrl key; in this way the block remains in its new layout.

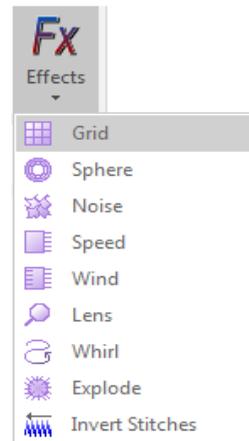
Effects

Stitch Era allows you to distort a block of stitches following complex geometrical patterns by means of the so-called effects.

In the next paragraphs you will find a description of these effects and the instructions on how to use them.

All the effects are available both from the STITCH EDITING ribbon, Transform group> Effects, and from the context menu (Stitch Effects on this block).

Remember that the first step to do is to make a block of stitches. Only then you will be able to apply any of the effects shown.



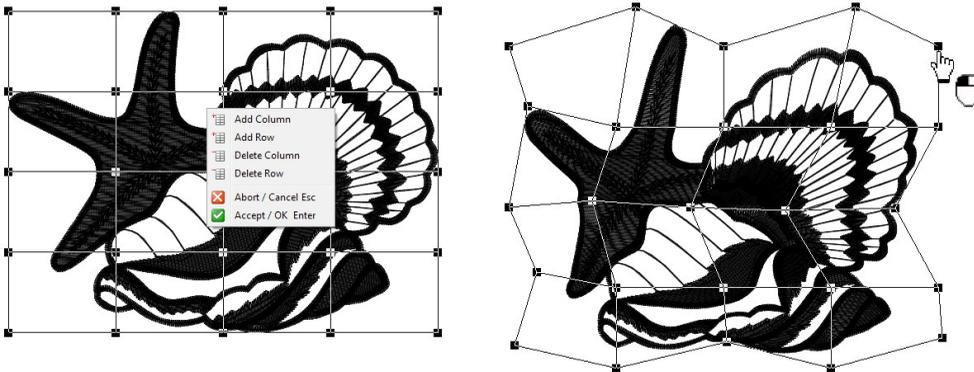
Note: The undo-command is always available, in case you want to undo after having applied an effect to a block.

Grid



This effect allows you to place the block on a rectangular grid. To form this grid, open the context menu and add or delete rows or columns (next figure left), according to the result you want to obtain. The rows and columns entered will be arranged along or across the block, forming a grid.

Moving the grid's points with the mouse (the intersection between rows and columns) you deform it, while the block stitches follow that transformation (next figure right).



Drag the grid's points to obtain the desired shape, as you proceed deforming the grid, *Stitch Era* will calculate the stitches, showing the result on the Graphic View.

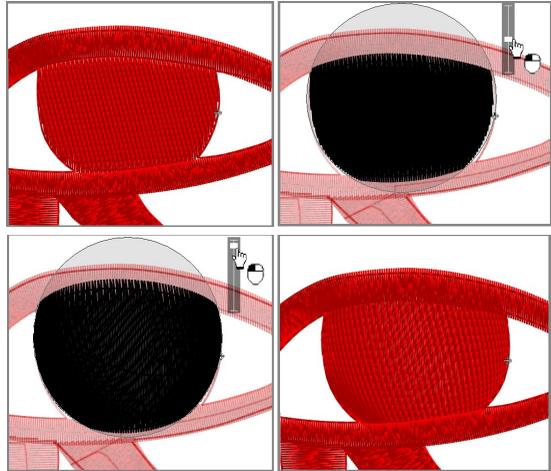
To finish, open the context menu again and click on the option Accept / OK, or simply press the Enter key.

Sphere



This effect will allow you to deform the block, giving it a spherical shape. To use this command follow the steps below:

Move the mouse towards the Graphic View area, exactly where you want to set the center of the sphere. *Stitch Era* will draw a circle while you drag the mouse button, hence defining the diameter of the transformation sector. Release the button when you are satisfied with the result.



If you want to modify the position of the sphere, place the mouse pointer inside the circle and drag to displace it. If you want to correct the diameter, drag the mouse pointer towards the outlines of the circle and drag it.

Power Selector: On the right side of the sphere there's a knob located vertically. Drag it up or down to specify the power applied to the effect. As you configure the intensity to apply you will see the result in a dynamic way in the Graphic View (observe on the upper figure that the cursor is moving the Power Selector).

To finish, open the context menu again and click on the option Accept / OK, or simply press the Enter key.

Noise

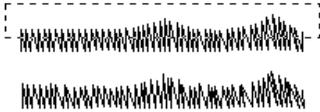


This effect alters the position of the stitch marks randomly, within a specific factor, creating a block of stitches slightly disordered (according to the power factor that was applied to the transformation).

Click on the block and drag the mouse to specify the area where the effect is going to be applied. You can move it to the area of the block you want or change its size.

Specify the intensity of the transformation from the power selector. Once satisfied with the result, open the context menu and click on Accept / OK, or simply press the Enter key.





Speed



Allows you to give the block a scanning effect, orienting the direction as you want.

Click inside the design area, and drag the mouse pointer to determine the area in which you are going to make the effect; you can move it or change its size. Then specify the orientation (left, right, up, down) clicking repeatedly on the triangle located on the top of the effect box. Specify the intensity of the effect from the power selector. When you are satisfied with the result obtained open the context menu and click on Accept / OK, or simply press the Enter key.



Wind

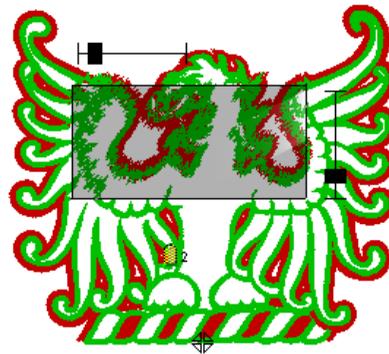


Allows you to deform the block, making oriented irregularities on the stitch marks.

The application over the block is similar to the Speed effect, having to define the angle and effect intensity from the control sliders. Click inside the design area and drag the mouse pointer to determine the area to apply the effect; you can move it or change its size.

Apply the desired intensity from the power selector located on the left box sector, and define the effect angle, that is the direction of the wind, from the upper control slider.

When you are satisfied with the result, open the context menu and click on Accept / OK, or simply press the Enter key.



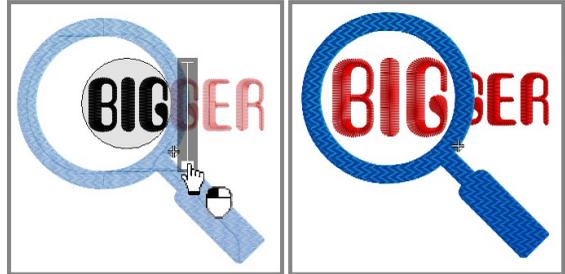
Lens



Allows you to deform the block, giving it the effect as if being seen through a magnifying glass.

Click inside the design area and drag the mouse pointer to determine the lens diameter, this will be the zone to which the effect is going to be applied. You can move the surface of the lens through the job area. From the moving slider define the intensity of the effect.

When you are satisfied with the result obtained open the context menu and click on Accept /OK, or simply press the Enter key.



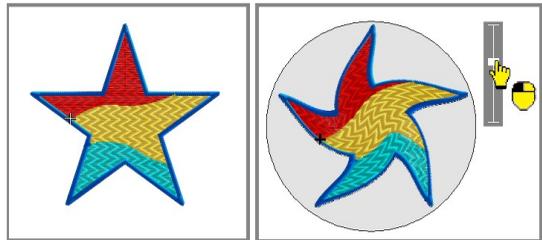
Whirl



This effect will allow you to deform an area of the block into a whirl.

Operate in similar way as the previous effect: Click inside the design area and drag the mouse pointer to determine the diameter of the effect; you can move it through the job area to the place you want to apply it.

From the control slider define the intensity of the effect. You can make the whirl clockwise or anti-clock wise, depending on the movement of the slider upwards or downwards.



When you are satisfied with the result obtained open the context menu and click on Accept / OK, or simply press the Enter key.

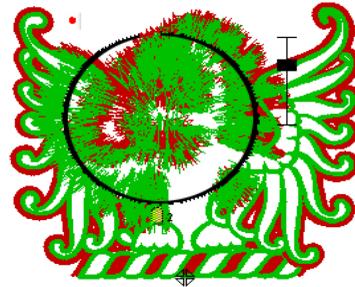
Explode



Allows you to deform an area of a block radiating the stitches as if it had exploded. To use this command follow the steps below:

Operate in a similar way as the Lens and Whirl effects: click inside the design area and drag the mouse pointer to determine the diameter of the effect; you can move it through the job area to the place you want to apply it. From the control slider define the intensity of the effect, indicate if you want an implosion or explosion moving the control upwards or downwards.

Over the effect circle (top left) you will find a little red dot, click on it to change the explosion type from normal to expansive mode.



When you are satisfied with the result obtained open the context menu and click on Accept / OK, or simply press the Enter key.

Invert stitches



From the context menu, this command will allow you to revert the embroidery sequence.

After executing it, the first stitch of the block will become the last stitch of it. *Stitch Era* automatically adds the necessary displacements to keep the block in its place and compensate the design.

Matrix Repetitions



This tool allows to create exact copies of a stitch block in a matrix disposition.

From the STITCH EDITING ribbon, Create Object group, click on Matrix Repetitions to open the control box. You can define the matrix's number of columns and rows, the separation between them, and also the Layout and sequence among the available ones.

Finishing tools

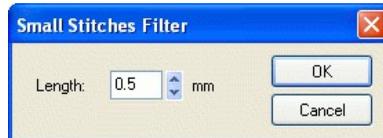
Filter small stitches



Allows removing design stitches which length value is within a given range.

To work with this tool, follow this procedure:

- 1) Select a block to activate the command, and click on it. A dialog will appear where you can specify the filter limit.
- 2) Enter the value and click OK to start the filtering.



Sort stitches by color

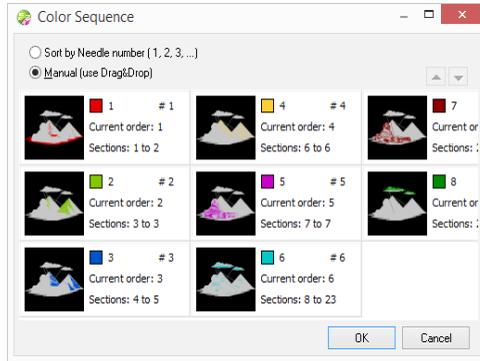


This command allows you to change the color order of the expanded design; it can be activated from the Stitch Editing ribbon, Finish group.

Use this tool to minimize the number of color changes produced when embroidering a design, so that all the stitches of the same color are executed one after the other.

Control the stitch color order from the Sort stitches dialog box; in it you will have a list of all the colors used in the design.

Selecting the option Sort by Needle number executes an automatic sort, based on the color number, making an ascending color ordering.



When using the Manual option you must click on any color from the list and using the Up and Down arrow buttons, modify the stitch sequence at will.

Finally press OK to accept the changes or Cancel to discard them.

Design Start and End points



To modify the location of both the start point and the end point, you have a group of tools to locate the Start or End of the design, either automatically or manually.

From the Stitch Editing ribbon > Finish group> Start/ End Point of the Design, you can use a group of commands that allow you to place the Start and End point in default locations commonly used.

Icons of the Start Point/ End Point of the Design



When the button “Show Start_End” (inside Show commands) is enabled, *Stitch Era* draws the icons of the Start and End points on the Graphical View.



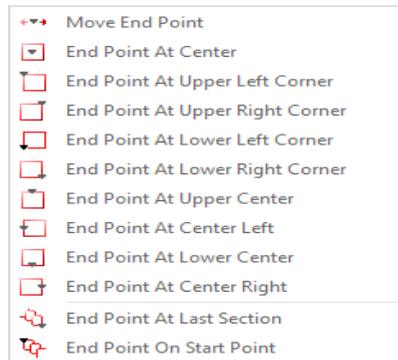
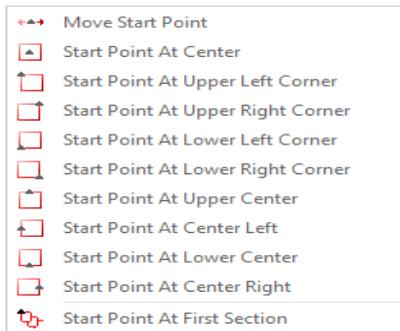
These are two small icons that represent the Start (arrow upwards) or the End (arrow downwards) of the design. Observe the two icons commented on the left figure.

Location of the Start and End Points

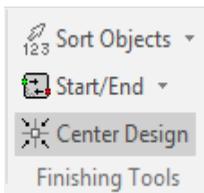
From these options you have a group of commands that allow you to place the start and end points in predefined locations commonly used. To use any of these commands, it is enough to select them by clicking on them. This makes that the mentioned points move to the indicated location.

Also, you can change their position manually, using the commands “Move Start Point” manually and “Move End Point” manually.

Simply activate the command and drag the Start and End Points to the desired position.



Centering tool



Access this function from the Embroidery ribbon, Finishing Tools group. This command produces the automatic centering of the design by moving the Start Point and End Point to the geometric center.

You will get the same result if you move the Start and End Points manually and independently.

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Chapter 4

Lettering and Monograms

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Lettering



Access the Lettering design tool by pressing the corresponding button that appears in the Embroidery ribbon>Insert Embroidery Objects group. Another way is from the “Create Sections” group commands, on the auxiliary bar.

After clicking on it, the Lettering ribbon is displayed, as a solution to create outstanding font designs.



Inserting texts in 3 steps

The best way to create a lettering design is by following the recommended sequence given by the application. Here we will introduce a model step by step and further you will find the most advanced options in detail to get the most out of this tool:

1- Select font and height

First you must select the font to be used, either a previously digitized or a True Type one. To do so, select one of these two options from the Ribbon Lettering > Font group.

Digitized Fonts



You have a “pre-digitized” font library. These are fonts specially created to be used in embroideries, according to the most common requirements: “cursive” or “script” type letters, “block” type letters or “Sans-serif”, letters with ornamentation or “serif”, etc.

TrueType Fonts



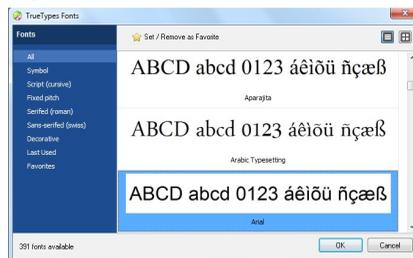
These are fonts that are installed by the Windows operating system, and that are available from most of the applications installed on the computer.

Stitch Era allows the use of these fonts to be converted to embroidery design sections, enabling the configuration of their properties in a similar way to the digitized ones.

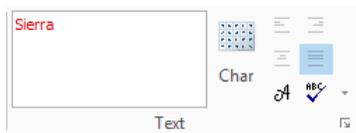
Fonts List

Once you have chosen the font type, you can unfold a list where you will find all the available fonts. Choose any of the listed fonts.

Before typing the text you can define its height, and if the letter will be bold and/or Cursive.



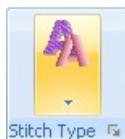
2- Insert text



In the Text field type the words to be included in the design, giving it a format in a similar way as when using a text editor: define the text alignment (left, centered, right or justified) and the color.

If you want to create a paragraph with several text lines press Ctrl + Enter to start a new line and continue typing the text characters.

3- Select Stitch type



By clicking on the Stitch Type option you can modify the fill properties of a pre-digitized font or choose the total fill for the TrueType ones. (Column, Body, Border, Body + Border).

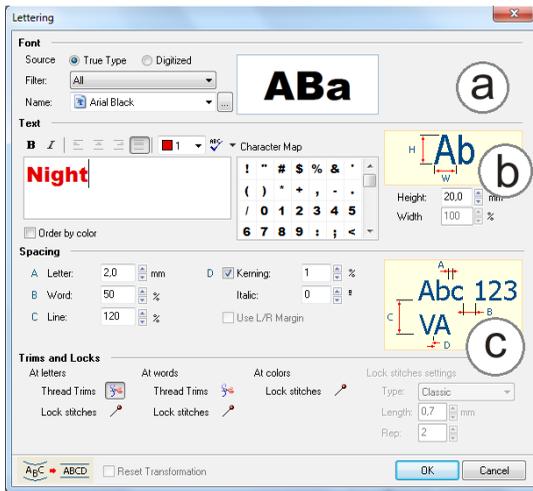
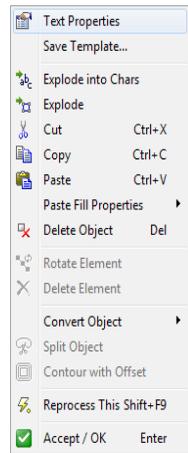


Properties in detail

To edit the properties of a text once you have inserted it in the work area, you can access the Text Properties from the context menu.



You can also access it from the button located on the lower right corner of the Select Font box, Text and Spacing one, and Trims and Lock Stitches. This window has all the items and controls for defining the text properties, also mostly shown on the Lettering ribbon.

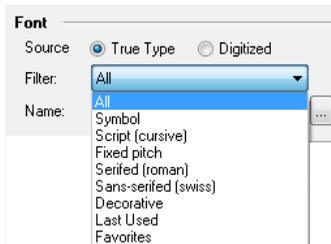
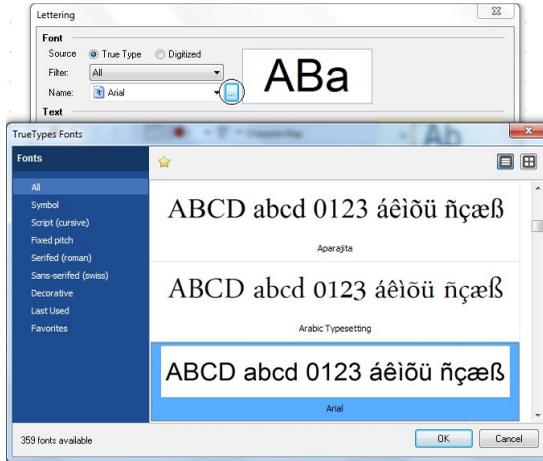


The other Ribbon Lettering boxes: Stitch Type, Arrange, Effects and Team Names have an independent configuration window with their own features.

Note: Effect and Team Names may not be present with your purchase as they are optional modules, that are sold separately.

Fonts and Text

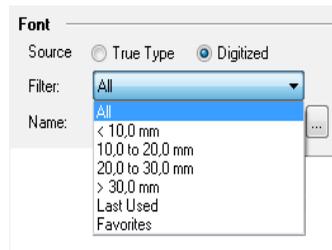
From the Filter drop down menu you can also make the system show you only those fonts that meet certain features.



In the case of working with TrueType fonts, you will be able to filter by family of letters (symbols, serif, Sans-serif, etc.).

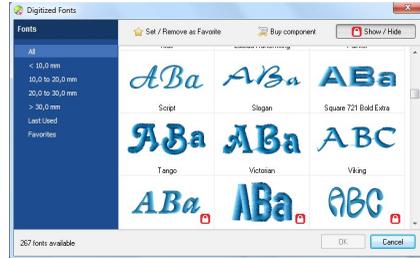
If you do not want to apply any filter, simply do not select any of the options on that item.

If you have decided to work with digitized fonts, you can apply a filter to visualize only the ones that meet a certain size. To do so, choose one of the available options from the Filter drop down menu.



On the Digitized Font type window, you will also find the ones that are not present on your system but are available for purchase. You will recognize them because they have a red padlock on their lower right. Press the Show/Hide button if you don't see them.

Clicking on the "Buy Component" button, a window will open from where you can purchase any of the Digitized Fonts and add it to your system. Follow the instructions given there.



Character Map

It shows the available characters in the selected font, since not all the fonts have all the characters available (small caps, accents, symbols, etc.). Remember checking that the selected font has all the characters needed to complete the text available. When clicking on any character, it will appear on a bigger size square, to allow a better visualization.



Double-clicking on a character, will automatically take it to the edition area, this is especially useful when you need to enter unusual characters which are not available through the keyboard, mainly used in creation of letters based on TrueType fonts.

Color List

The color list allows you to establish the color of each selected letter, word or line. You can choose the desired color before typing the character in the editor box, or select the words and afterwards apply the color.

Adding a multicolor text

- 1) Before making this procedure, remember that you have to insert and define all the colors that you wish to apply. Leave the color used most of the times activated.
- 2) Open the Lettering box, and define the font type to be used, either digitized or TrueType.
- 3) Then type in the text edition box. This text will have the color of the color option that we enabled.
- 4) Select the word or letter you want to modify the color to. From the color list, choose the one you want to assign to the selected text.
- 5) Continue inserting the rest of the text parameters.

Order by color

This tool is very useful when designing a text that has two or more colors, and you want to lower the number of color changes and thread cuts. When this tool is enabled, all the sections of the same color will be embroidered before the next color change.

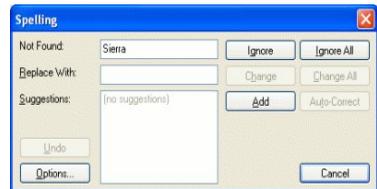
Spell Check



After adding the words in the Text box, you can make a search for orthographic errors by clicking on the Spell Check button.

On the right figure observe the Spelling dialog box. It works in a similar way to Microsoft Word spell check tool.

When activating the command, a box showing the terms unrecognized will appear; at the same time that it will show a list of the suggested words. Besides you will be able to add terms to the dictionary, enlarging the number of recognized words by your system, or ignore the replacement.



In the box will appear one by one all the unrecognized words, accompanying each one with a series of suggested words, ignore buttons (if the text is well-written), change (to replace it by the suggested text that you have selected) or add to a list of recognized words.

You can configure several options of this utility, customizing its way of operation. To do so drop down the options from the activation button and select Configuration. A dialog box will appear showing several configuration options (language, dictionaries, etc.).



Spacing, Trims and Lock Stitches

The Size box shows you information about the original size of the selected font and allows you to modify these values.



Consider that for a Digitized font you can define height and width, but if you work with a TrueType, the Width value will be disabled.

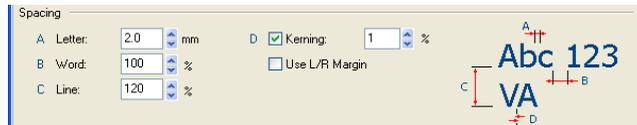
Note that the height value is related with the overall font, including the highest letter in the font and those letters going below the base-line, and not just the letters you are using in your text.



Height and Width

To modify the text's height and width

Spacing



Encloses a series of options related to the text spacing. Defines the spacing value (in mm.) existing between Letters, Words and Text Lines. Also, you can activate or deactivate the Left/Right margin and the Kerning. Its options are the following:

- Letter:** Expands or compresses the text horizontally, according to the value introduced.
- Word:** Expands or compresses the space between words, measured according to the percentage introduced, corresponding 40% to the normal spacing (default).
- Lines:** Increases or reduces the spacing between text lines, and it is measured according to the percentage introduced, corresponding 120% to the normal spacing (default).
- Kerning:** This option is only available for digitized fonts. It is the spacing between the letters joints. The Kerning box allows the activation of automatic spacing, and the value in the box adjusts its factor accordingly.
- Use L/R Margin:** This option is only available for digitized fonts. Indicates that left/right margins should be used for letter alignment.

Examples

Stitch ERA S t i t c h E R A

This is the result of increasing the spacing between letters and words.

Here you can see the result of increasing the value of spacing between lines. This feature is only applicable to texts that have two or more lines.

**Stitch
ERA
Stitch
ERA**

Yoghurt
Yoghurt

Result of using kerning over the “Y” and the “o”. Observe that in the first example, this feature has not been used, while in the second example, kerning has been applied over the text. In this case, the spacing between these two letters is less (than in the rest of the letters).

Trims and Lock Stitches



Lock Stitches



To define the insertion of a lock stitch in characters, words and color changes, from the item Use, you define if you use this feature and at what moment it must be applied.

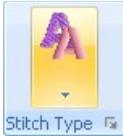
The Lock Stitch Types can be Classic, Sequin, Star, Twist, Cross and Arrow. Length parameter controls the stitch length used in the lock stitch and Rep controls how many times the pattern is repeated.

Thread Trims (Cuts)



This parameter lets you control where thread trim controls are inserted. Available options are At letters and At words.

Stitch Types



The items explained next appear, having selected True Type Font option, when clicking on the lower right corner of the option **Stitch Type** in the Lettering ribbon.

From here you can modify the fill properties. The system offers a working agile operation method, in which you just have to choose the desired stitch type from a list of possible choices.

First, choose one of the available fill types, grouped in the following tabs:

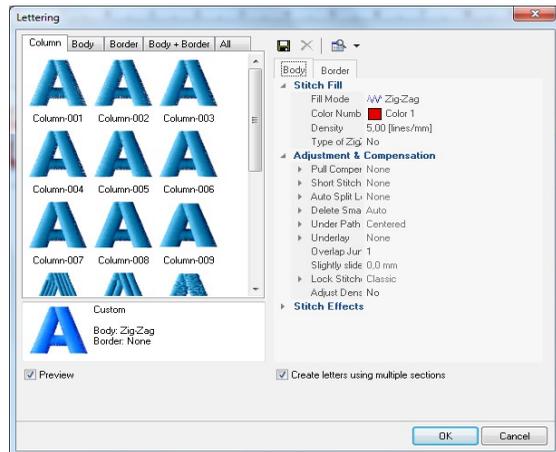
Body: This option defines Area type stitches with a pattern, generally converting each letter in a single section.

Border: Running stitches or Zig-Zag forming the outline of each letter.

Column: Several sections with Column type stitches are formed, which reproduce the geometry of the original text.

Body + Border: Combines both stitch types, allowing new possibilities.

All: See all the available fills listed in only one window.



When selecting any of the available options, observe a simulation of the result in the Preview box. Click on the check box if you don't see the preview. Once satisfied with the result, click on the OK button.

Note: If you do not modify any of the options commented next, the application will use the default values or the ones used in the last work session.

Customizing Fonts

If after having selected a Stitch Type you do not achieve the desired result, you can modify the characteristics of the stitches. The Preview always shows a partial result while you are defining the fill stitches characteristics.

From the Body and Border tabs, you can modify the stitch properties until you get the desired result.

The items that appear here depend on the stitch type selected, and are organized in a similar way as they are presented in the Object Inspector.

From this tool you will be able to modify the properties of the text stitches, also allowing you to save the changes for a later use.



From the Levels button you will be able to define the stitch properties applied to the text that can be edited choosing one of the levels from a drop down list.

Reusing customized fill types

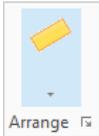


After modifying some of the values of the stitch properties, you have the possibility of saving all the fill types you have obtained, either for a digitized font or for a TrueType font, so that you will be able to apply the same style in other jobs.

Remember that in the True Type fonts, user styles can be applied to any chosen font. In the case of using digitized letters, the styles created for a font are usable only for that specific font.

Note: It is recommended to choose a suitable name for the fill; in the future this will allow you to identify it easily. Otherwise, this job method will not be effective. For instance: "let-shirt-jean" for a fill type to use in lettering applied to jean shirts.

Shape Transformation



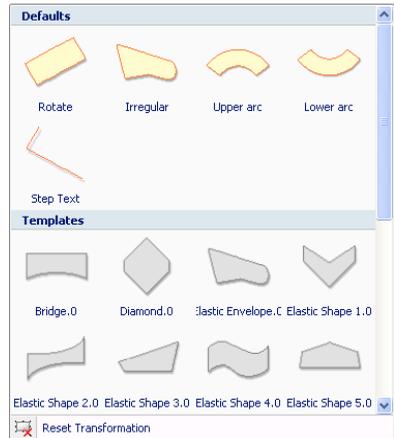
Through the options available in this group, you can modify the text shape and layout. You have different transformations to choose from, and the text will align according to the selected preset geometric form.

When inserting letters in the workspace area, *Stitch Era* surrounds the text with a dotted rectangle known as text box, and activates certain points for you to control graphically the text transformation.

Each predefined transformation format has different *control nodes* (explained next) that behave differently when they are moved.

You can manually modify the intensity and deformation of the transformation from the main working view, and the text will follow the variation produced at every moment.

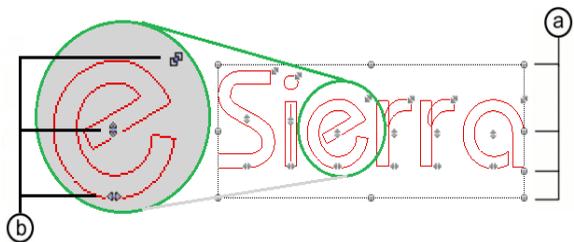
There are certain transformations known as line type, since they modify the text base (for example; Step Text transformation, Line, etc.), while in wrapping transformations, a box encloses the text following the transformation produced (Irregular transformation, Rotate, Upper arc, etc.).



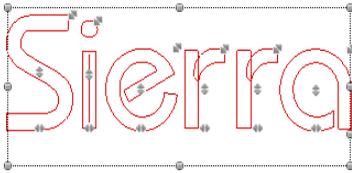
Control Nodes

Note the dots on the right of the text (a) and the small arrows on each character (b).

The dots (a) are known as "text transformation nodes" and control the shape and layout of the text box.



These text transformation nodes allow you to modify the aspect of the dotted rectangle known as "base line" or text "wrapping" (depending on the transformation type chosen). When doing so, the text layout is modified, as it adapts to the shape of the text box.

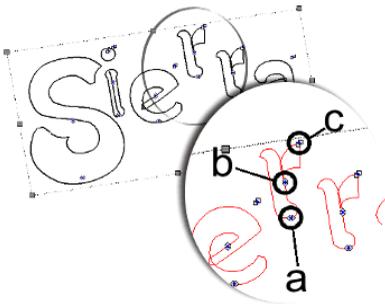


These modifications are known as line or wrapping transformations. Observe that the text outline is surrounded by dotted lines, forming a rectangle around the text.

Also, points marked as (b) are known as "character control nodes", which enable the individual control of each letter, as you can adjust interactively the character position within the text box: its size (right top node), its vertical position (central node) or its horizontal position (bottom node), etc.

In the next paragraphs you will find further information about the use and possibilities of some changes available. The rest of the options, including those created by the user, have a similar performance to those explained here.

Character control nodes



Every change enables one or more modifications of the layout or size of each text character.

These node types modify the letter size or displace it, but always following the figure of the effect applied to the text.

In the left figure the control nodes on one of the characters have been circled; their respective functions are explained next:

a)Horizontal displacement: This is defined by the node that is placed in the characters's base line. When dragging this node, the character will be moved horizontally along the text base line, following the shape of the transformation, approaching or moving away from the rest of the letters of the text.

b)Vertical displacement: It corresponds to the node placed at the center of the character and enables its upward or downward movement.

c)Size modification: It corresponds to the node placed at the right upper part of the character and allows you to reduce or increase the letter's size without modifying the total size of the text.

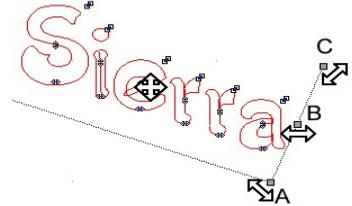
In the shape transformations based on a box deformation (regular, irregular and distortion) only the horizontal displacement and the size modification options are available.



Step text

Allows you to arrange the text with a “step” effect (from top to bottom or vice versa).

Letters remain in a vertical position, altering the arrangement among them. During these modifications, the right and bottom sides of a rectangle will appear, and two corners will be activated as well as a middle point on the sides and a node in each letter.



To apply this transformation, proceed as follows once you have inserted the text box in the working area and have chosen this shape transformation:

1) Capture the chosen text node:

- Corner A Node (text transformation):** When dragging the corner up or down, it modifies the steps slant, changing the relative positioning between letters.
- Mid point B Node (text transformation):** When dragging the corner left or right, it produces an increase or reduction of the spacing between letters. The size of letters is not modified.
- Corner C Node (text transformation):** When dragging the corner to any side, it expands or compresses the entire text proportionally.
- Character control nodes:** they modify the layout and size of each letter as from these nodes.

2) At the same time, when dragging the text box, it will be moved along the working area, until you drop it in the desired position.

3) Once the desired shape is achieved, use the context menu and click on Confirm. The text should be automatically generated, if “Automatic Generate” is enabled in the Quick Access Bar. To generate the section manually, click on the Ctrl + F9 keys.



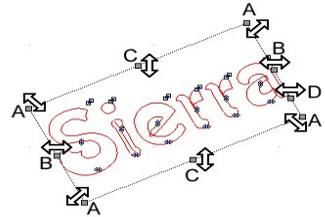
Observe in the right figure, a “step” effect applied to a text.

Re-size and rotate

It allows you to modify the text following the geometrical shape established by the deformation of the rectangular text box that surrounds it.

Such transformation allows you to enlarge and compress texts in any of its dimensions, move and rotate them.

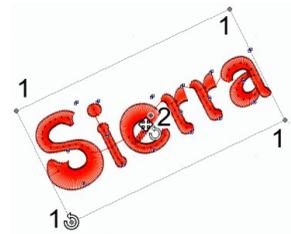
When selecting this effect, the four corners activate, as well as the four middle points and a rotation center. You can observe them in the figure. The following text transformation nodes will appear in the figure:



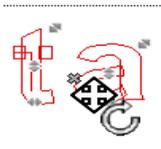
- **A Nodes:** To control the corners, by applying a proportional scaling.
- **B Nodes:** For horizontal scaling.
- **C Nodes:** For vertical scaling.
- **D Nodes:** For the control of spacing along the text box. These nodes allow you to modify the spacing between letters.

By dragging the corners (A) you expand and compress the text proportionally in both axis at the same time; whereas, if you drag the mid points (B) and (C), it is possible to expand or compress the text to a single dimension.

When pressing the Ctrl. key, the text box changes its mode into rotation mode, while four nodes appear to control the text rotation.



Drag any corner (1) to rotate the text to the required angle. In the left figure, you can observe the shape that the mouse pointer takes when positioning it on any of the nodes having pressed the Ctrl key.

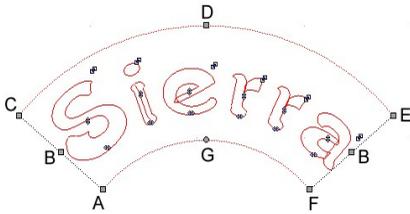


By moving the rotation point (2), you can modify the axis on which the text rotates; to do so, while pressing the Ctrl key, move the rotation point to its new position.

In the left figure, you can observe the shape that the mouse pointer takes when positioning over the central node of the box while pressing the Ctrl key.

Upper and Lower Arc

Allows you to curve the text in an upward or downward arc shape; the letters modify their layout based on the arcs curvature. You can manually move each of the letters, displacing the node horizontally, making the letter move along an imaginary curved line.



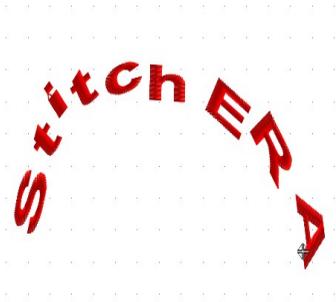
When activating any of these two shape transformations, a text box with two corners, three mid points and a character control node in each letter will appear.

To use this transformation, consider the functionality of each of the box nodes:

- Corner A Node:** Allows you to adjust the height of the curved box, keeping the upper side fixed and displacing the lower one.
- Mid point B Node:** Allows you to control the center angle of the arc, enlarging or compressing the text and maintaining the inside and outside radius.
- Corner C Node:** When dragging the entire box, this moves on its radius, zooming in or out of the arc center, modifying its width proportionally.
- Mid point D Node:** Allows you to control the height of the curved box, maintaining the lower side fixed and displacing the upper side.
- Corner E Node:** Allows you to expand and/ or compress the box, combining the properties of points B and D at the same time.
- Corner F Node:** Allows you to rotate the box around the arc center.
- Center G Node:** Allows you to modify the arc radius, maintaining the height and width of the box.

All of the nodes above-mentioned are text transformation nodes (they modify the text box). Each letter has its own character control node.

In the figures below you can observe on the left a text with an Upper Arc transformation where some of the letters have been moved vertically using the character control nodes. On the right, a Lower Arc transformation taken to the limit of its shape.



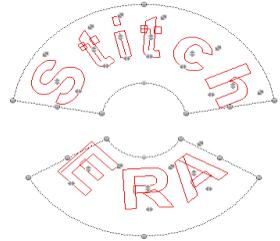
Double Arc

Allows you to curve two text lines at the same time: the upper line upwards and the lower line downwards. Letters modify their layout based on that curvature. Both arcs are synchronized, so that the changes performed in one of them are also reflected in the other.

When applying these changes, the same text box nodes used for upper and lower arc transformations activate, so the meaning of each handle is the same as for those.

Remember that this transformation is only available for texts with two lines.

Note: To get a second text line remember that you have to press Ctrl+Enter after having entered the first line of letters.



User Line

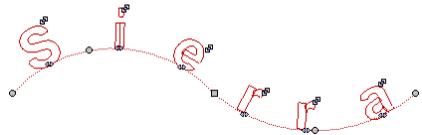
The transformation “User Line” allows you to move the text based on an arbitrary shaped line.



Every transformation described previously is based on the text layout according to a default geometrical form (line and arc). In this transformation you define that line (with straight or curved segments according to your selection) and Stitch Era creates the text, curving it according to the line.

To work with this transformation follow the procedure shown below:

1) Once you have entered the text in the text box, and before pressing Enter, open the Arrange box and click on User Line, to activate the transformation. Now make several clicks in the working area to establish different nodes (from left to right). These will give the direction to the base line.



To draw the base line you can insert curve or straight nodes. By default, nodes will be straight, but pressing the Shift key you will create curved lines. Once you have finished inserting the nodes, press Enter to get the text on the workspace, following the shape of the base line you created.

2) You can modify the line's shape from the nodes; the text will follow those changes. If you want to modify the line that acts as guide line, please consider the following:

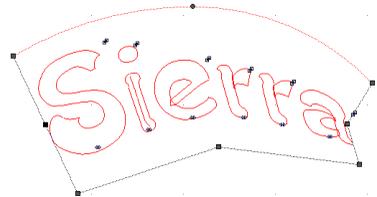
- You can change the nodes properties (straight, curve, corner) by positioning the mouse pointer on them and clicking on the right mouse button.
- You can add a node by placing the mouse pointer on the line where you wish to insert that node (the cursor turns into a cross arrow). Then, press the Insert key.
- If you want to delete a node, place the mouse pointer on it and click on Delete.

You can move the letters along the baseline, to do so drag any of the character control nodes that are placed on the base of the letter.

Once the desired shape is determined, click on Enter for *Stitch Era* to insert the text following the defined shape.

Irregular

It allows you to modify the text without following a specific geometric shape. This type of modification is wrapping type. When selecting this effect, the four corners and mid points are activated.



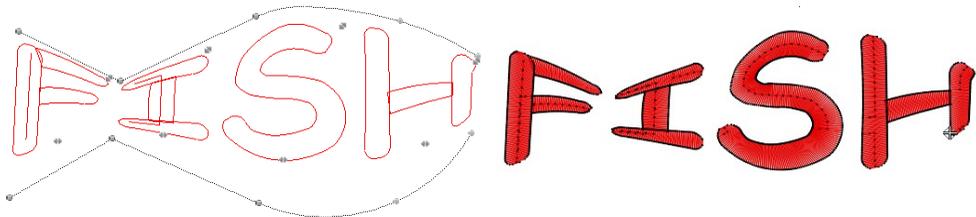
These nodes can change their properties (free, straight and curve), allowing different deformations of the box, by only right-clicking on them.

User Distortion

This effect allows defining the upper and lower sides of a box and distorting the text accordingly.

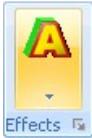
The definition of the sides is made in a similar way to the definition of a User Line, that is to say, it has straight and curve nodes and corners that can be moved, deleted and inserted while applying this effect. Once you have entered the text in the text box, and before pressing Enter, open the Arrange box and click on User Distortion, to activate the transformation.

Make the lower line, click on Tab or Enter and continue with the upper line. Press Enter to get the text on screen and generate it.



Text Effects

(Optional Feature)



This optional feature can be applied to True Type Fonts only. In this group you will find some tabs to apply different effects. These effects will allow you to modify the texts appearance in a simple way. Choose one of the tabs and you will have a series of controls to set the configuration parameters of the selected effect.

Getting a correct highlight on the effect applied to a text, requires that you have at least two needle colors in the design. This is because you get a better result if the effect does not have the same color than the one applied to the letters.

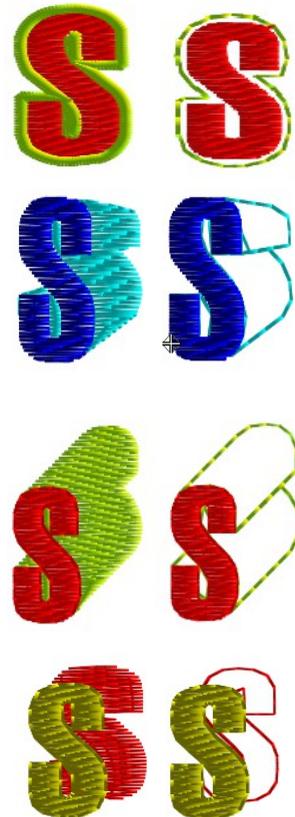
The available effects are:

•**Offset:** this option creates a border within the text limits. The displacement value specifies the thickness of such border; it can also define the Color and Type: body (near right image) or border (far right image).

•**Perspective:** This option allows you to apply a 3D perspective on the text to create a depth effect, simulating 3D images. Its main parameter is the Size (when increasing or reducing the Size value, the text will approach or recede from the vanishing point). Other characteristics are Ref. X and Y (horizontal and vertical coordinates of the vanishing point), Color and Type: body (near right image) or border (far right image).

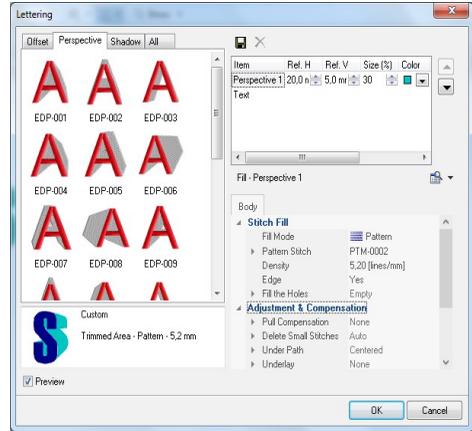
•**Perspective Orthogonal:** It works in the same way as the previous effect but you cannot define coordinates of the vanishing point (because it's on the infinite). You can only definite an angle (referenced to the X axis) to where the parallel vanishing lines will point to, and a depth distance. Color and Type: body (near right image) or border (far right image).

•**Shadow:** Produces a "shadow" effect according to its horizontal and vertical coordinates. From the X and Y displacement parameters, define the desired slant. The rest of the properties are similar to those already mentioned.



To apply any of the effects created, simply choose the one from the list that meets your expectations. From the preview, you will have a partial result of the effect achieved.

In the upper right sector of the box the system shows a list, being its items, the effects applied and the text. Both elements are showed in layers, one over the other. In the columns you will find the values of the effects parameters; from there you will be able to modify the values for the chosen effect. On all the effects, you can enable an Overlap to achieve a stitch overlapping and avoid the creation of zones free of stitches due to the thread tension.



If you want a major control over the effect parameters, you will be able to operate on the tabs in a similar way as if working from the Object Inspector.

Once you have successfully configured an effect, you will be able to save the values of its parameters; this will allow you to use them in other opportunities.

Save effects



After modifying all the stitch properties for the effect you consider convenient, you will be able to save the effect by pressing the Save button, a box will appear where you must type a descriptive name.

This effect will be saved together with the new configuration, both the parameters for the effects and the properties for its stitches.

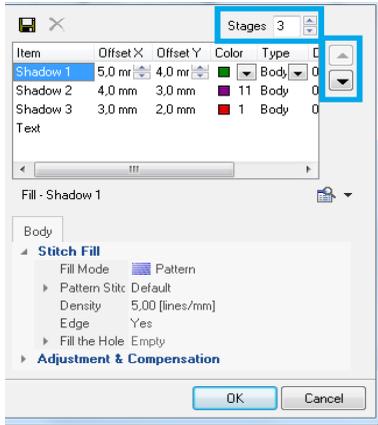
Ordering the effect stitches



You will be able to change the level location of the effects by the buttons up - down, (they can remain above or below the text layer or of other levels of effects). This will vary the result obtained.



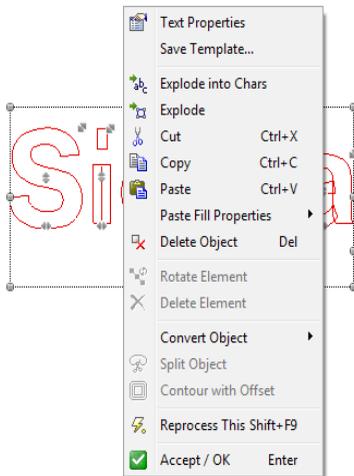
Besides, some effects can be applied on several layers. In the left figure, a Shadow effect was applied to a text, increasing the number of Stages (layers) to 4. To achieve an optimum visualization of the effect, a different color was assigned to each layer.



Increasing the value of Stages (left figure) you can define particular features for each of the fill levels.

The best way to apply this type of effects is by testing repeatedly the effect achieved until reaching the result you want to obtain.

Explode and Explode into Chars



Stitch Era manages texts as special section packages that could be manipulated with specific tools, allowing you to modify the font, layout, etc.

However, sometimes it is required to break the text object into its components, to make specific modifications to it.

To do this, the system offers two functions: *Explode into Chars* and *Explode*.

Explode into Chars converts the text object in a set of package objects, one for each letter in the original text.

Explode lets you break a text object into its basic section components.

Once a text is exploded, you will get a collection of normal sections, that can be manipulated as any other section you may create.

Both functions are available from the context menu when you select a text object.

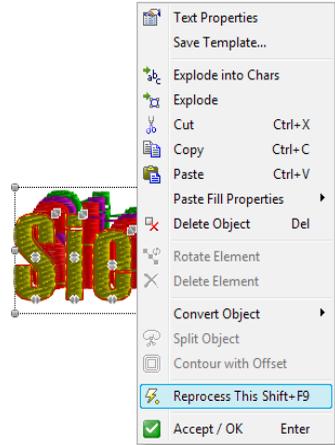
Confirming the text insertion

When accepting the changes *Stitch Era* inserts the text within the design area, activating the selected shape transformation.

If you want, you can modify the text box to apply the selected transformation.

Once the adjustment of the final shape of the effect is confirmed, click on “Reprocess This”.

The application will create all the stitches that correspond to that text.



Team Names

(Optional Feature)



Stitch Era includes, as an optional feature, a tool for the design creation with different texts based in a list of words.

This tool is perfect to apply in those cases where a big amount of designs of the same type have to be created and where the only thing that changes is the text content but not its shape or layout in the working area.

We illustrate its use through the following example:

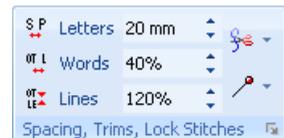
1) Type the names that correspond to the table fields, one in each line. In the Text field enter First Name in the first line, then press Ctrl.+Enter and type Last Name in the second line.

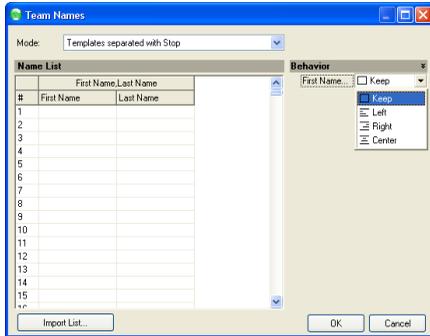


2) Configure the text features.

3) Click OK and generate the text.

4) Go to the Embroidery ribbon, and click on the Team Name button which is at the end of the Insert Embroidery Objects group.





A window will open displaying a table with columns that are labeled as the lines you entered in the text window.

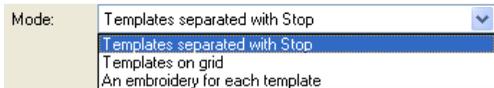
5) Enter the data in each of the lines and columns, such as shown in the left figure. From the Behavior field you can select the configuration options such as text alignment.

6) Define a visualization mode and a behavior and then click OK.

Visualization Modes

There are three possible creation modes for the data entered:

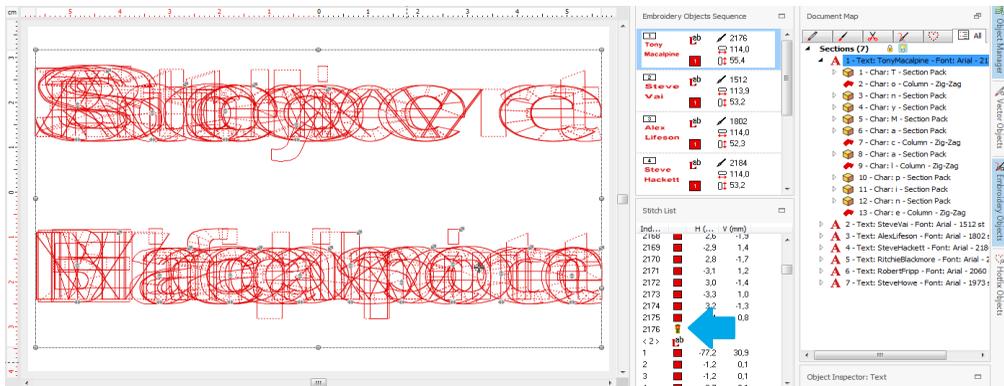
- Templates separated with Stop
- Templates on grid
- An embroidery for each template



Please specify the selected mode as from the drop down box that appears in the top of the window. Based on the selected mode, you obtain a different result.

Templates separated with a Stop

The texts are shown overlapped on screen. To visualize them better, open the object manager. Each text is separated from the following by a stop control, as seen in the Stitch List.



Templates on grid

In this mode, the texts are shown in a grid that appears on screen (right figure).

The Grid dialog box contains the following settings:

Column	2
Row	2
Sep. H	0.1 mm
Sep. V	0.1 mm
Sequence	Horizontal
Sort colors	<input type="checkbox"/>

Tony Steve
 Macalpine Vai
 Alex Steve Ritchie
 Lifeson Hackett Blackmore
 Robert Steve
 Fripp Howe

When selecting this option, a field appears in the Team Names box where you can configure the number of columns and rows, the horizontal and vertical separation, the sequence and Sort colors enable.

An embroidery for each template

In this mode, an embroidery is automatically created for each row entered in the table.

You must choose the name, machine code and location where you want the embroideries to be exported to.

In the example on the right we have entered as DesignNames AL; SV; SH and GE.

In “Path”, we created a folder called “Designs” in the location C:\ to where all the files will be sent to.

In “Profile” we stated which machine code will be used to export the files. In this case we have chosen “Tajima-Standard” machine code.

The Team Names dialog box shows the following configuration:

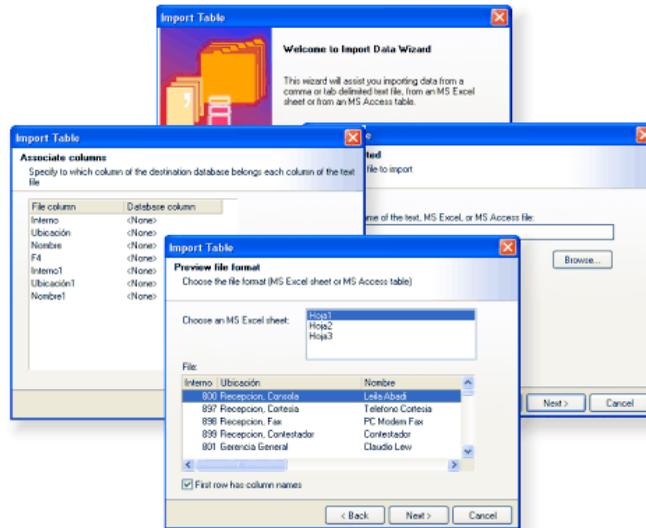
- Mode: An embroidery for each template
- Name List table:

#	First Name	Last Name	Design Name
1	Alex	Lifeson	AL
2	Steve	Vai	SV
3	Steve	Hackett	SH
4	Geddy	Lee	GE
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
- Behavior: First Name... Keep
- Output: Path: C:\Designs; Profile: Tajima - Standard

Import List

In the case in which the number of columns and rows is considerable big, Stitch Era allows importing a file in which all the texts to be used are listed, avoiding having to type each one to the Name List.

To enter the required information, you may import a data table from a text type file separated by commas or tabs, MS Excel or MS Access. To do so, click on the “Import List...” button in the main window.

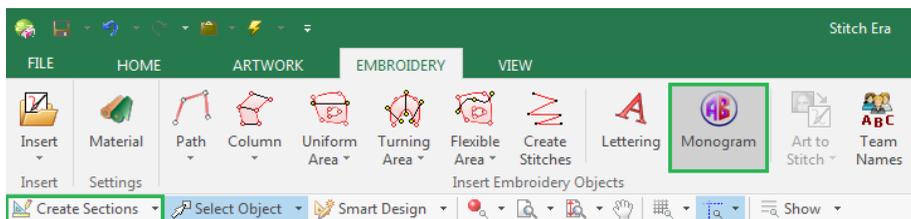


The Import Table wizard will appear on screen; follow the instructions given. Click on the Next button to continue and follow the instructions given by the Wizard. When the Wizard requests it select the file to import, in its correct format. Then specify the columns in the destination database to which each column of the imported files corresponds.

When finishing the process, you have all the imported data in the Team Names list.

Monograms

Stitch Era enables the text insertion in the shape of monograms. These correspond to designs with an exclusive style, generally formed by one, two or three capital letters.



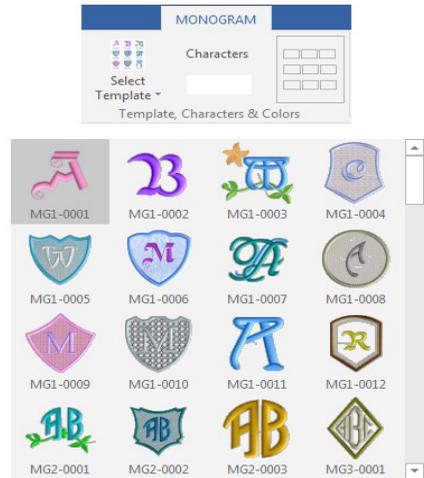
Add Monograms

To create a monogram, on the “Embroidery” ribbon, “Insert Embroidery Objects” group, click on “Monogram”.

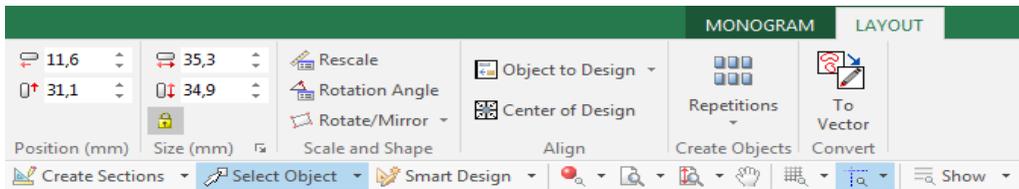
Click on “Select Template” to open the window of available monogram styles, and choose the desired one.

Type the desired characters in the Characters box and press Enter, so that the monogram appears in the working window.

Click on the color box to open the palette and change the monogram color.



From the LAYOUT tab, you may modify the monograms position, modify height and width values, add a rotation, alignment, repetitions, and other options.



Edit Monograms

Once the monogram has been inserted you will be able to perform changes over the entire monogram (according to the system level you have) or over the different elements that form it.

Press F11 to enter the edit mode and click over the monogram to select it. The first time you click over the monogram or one of its elements, you can edit it as being in block mode, allowing you to apply any of the block transformations, or changing the monogram type among the different monograms available (from the Monogram ribbon).

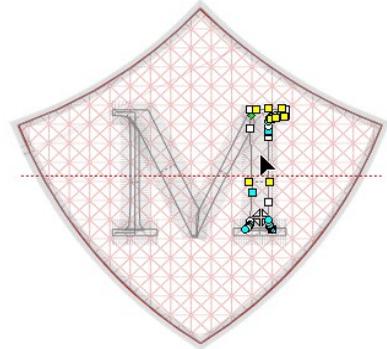
Upon the second click over the same element, you will edit the shape and be able to alter the location of the nodes that define its shape, modify the Start and End Points, directions, etc. You will also be able to change the section's properties from the Object Inspector.

If you click on the monogram to select it and open the context menu you will have several functions available:

“Copy” and “Paste” options;

“Convert”, choose convert the monogram into stitches (Erase Section Wireframe), or convert the monogram into a vector;

“Explode” which turns the monogram into the different sections that form it. You may then modify each object's properties and/or shape.



Object Manager with Texts and Monograms

Object Tree View

The Object Manager shows up at the right side of *Stitch Era*. Click on it to open the Document Map and below it the Object Inspector.

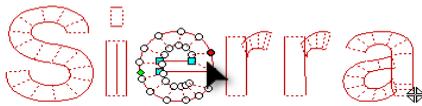
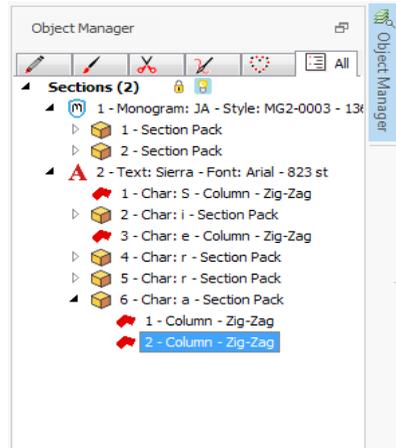
These utilities offer you alternatives for the visualization of the element being created or edited, or to visualize the sequence view, or to block or show/hide some of their parts or features.

Once you have a text or monogram in the Graphical View, you will be able to edit freely the shape of any component part; to do so just click on the section; the nodes that define its shape will appear.

If a character is formed by more than one section, it will appear as a Section Pack.

Click on the pack to view the different sections that form the character.

You can then click on any of the sections to be able to change its shape.



You have the chance of editing characters as if they were sections: you will be able to drag nodes, delete them, create new ones, etc.

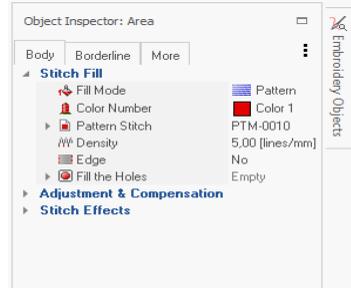
Object Inspector



In this window, which is beneath the Object Manager, you can visualize or modify, from the different edition modes, several aspects of the active design, though its most important function is the total control of the main properties of the sections, since you will be able to control many parameters that affect the generation of stitches.

These properties define fill type, and the values of underlay, controls and available effects.

The window is organized in different panels, which we will describe next:



The correct use and configuration of the section's properties will be one of the decisive factors in order to achieve satisfactory results in less time, getting the most out of Stitch Era.

Object Inspector organization

From the edition mode the Object Inspector shows, from its different tabs and drop down panels, all the properties that can be used in the selected section.

These properties depend on the type of section you are selecting, and they are organized according to their functionality.

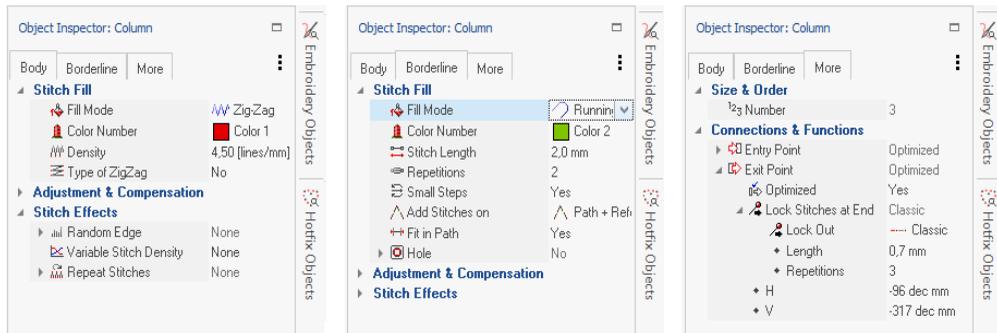
Editing a Column section, you will find several tabs. On the **Body** tab we find:

- **Stitch Fill**: controls the section's main properties.
- **Adjustments & Compensations**: Controls the fabric underlay, the pull compensation, the stitches overlap, internal paths, etc
- **Stitch Effects**: Different distortions that can be applied to the stitches, like random Edge, Variable Density, Repeat Stitches, etc.

In the **Borderline** tab appear several properties that control the fill in the section's outline, while in the **More...** tab you will find the ones referred to the size, embroidery sequence, connections and functions.

- **Connections & Functions**: Manages the optimization and lock stitches of the entry and exit points, the machine controls, the cut at the end of the section, etc.

Also, in the Object Inspector window title you can see the description of the section type selected.



Chapter 5

Merging Designs

Content:

Making a new design using motifs, texts and monograms.....2

Now that you have learnt where the digitizing tools are and how to use them; and we have also shown how to use the Catalogs floating window, you are going to make a design on your own, step by step using them.

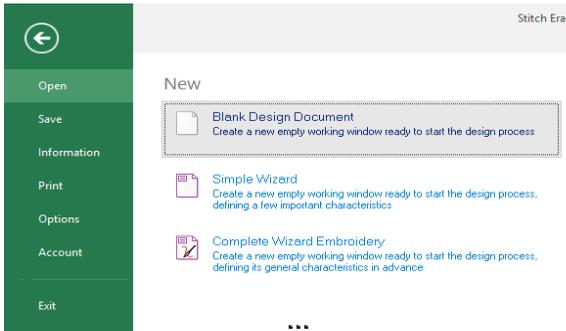
Making a new design using motifs, texts and monograms

Through the Catalog, you can easily create beautiful designs in a couple of minutes in a blank document, using embroidery files, and motifs.

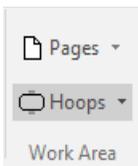
You can merge all the elements you want from the Catalog to the existing design.

Finally you can insert a text and a monogram to complete your design.

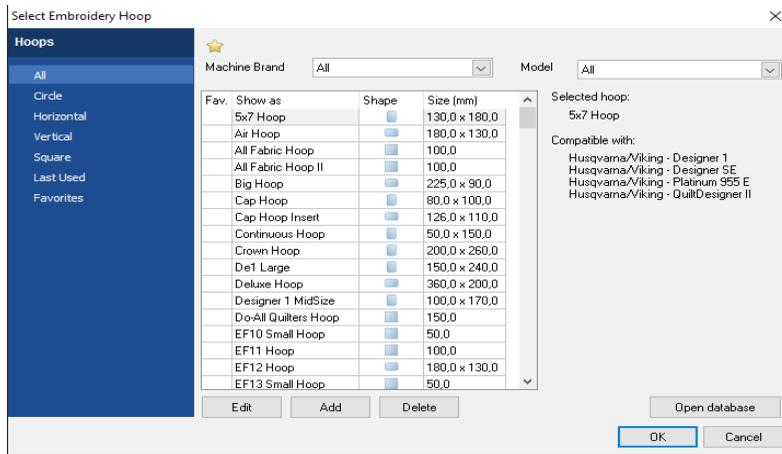
Let's see an example of this and the steps to achieve it.



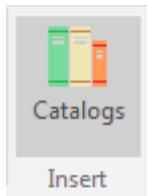
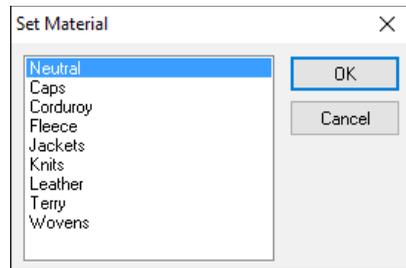
1. On the *File* Page > *Open* group, under *New*, click on *Blank Design Document* to create a blank new document.



2. From the *Home* ribbon > *Work Area* group, click on *Hoops*, and then on *Embroidery Hoops*. Choose the one you are going to use and press OK.

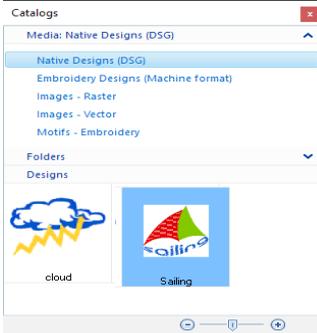


- From the *Embroidery* ribbon > *Settings* group, click on *Material*. From the *Set Material* window, choose the material you are going to work on, and press OK to select it.



- From the *Home* ribbon > *Insert* group, click on *Catalogs*. On *Media*, choose *Native Design (DSG)* to search for the design files you may have on a determined folder.

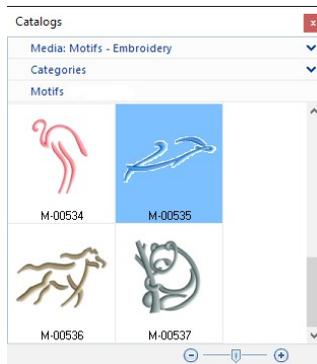
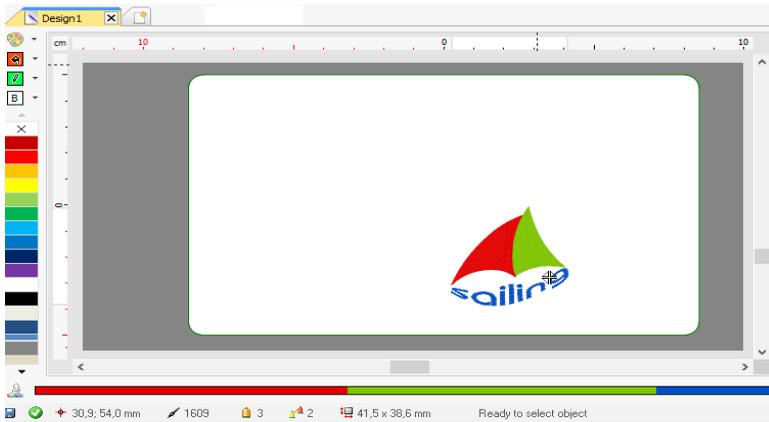




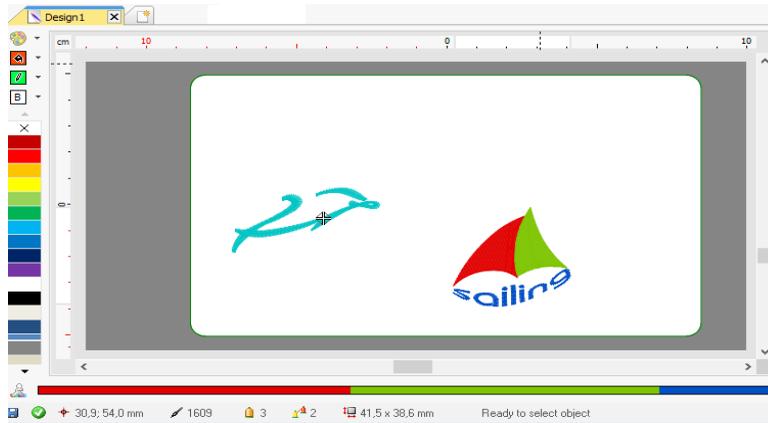
5. Once found, step on it and follow one of these two options:

- > drag it from the Catalogs window to the workspace;

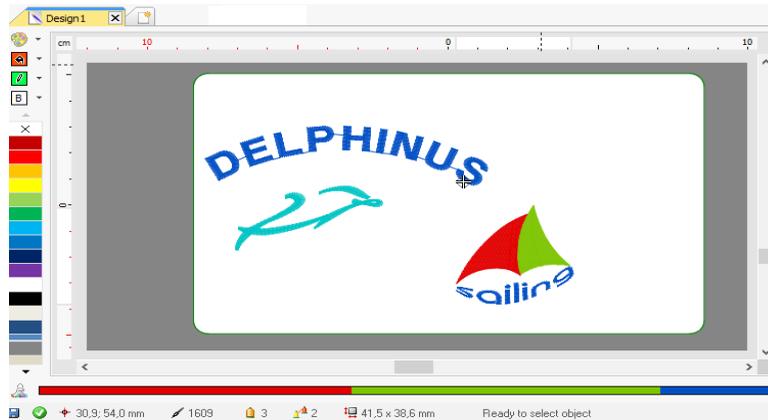
- > double click on it on the Catalogs window, and then, on the workspace, keeping the left mouse button depressed, move it as you were making a rectangle. You will see the design being made. When you are satisfied with the size, release the button.



6. Once more from the *Catalogs*, choose *Media: Motifs-Embroidery*. Then, add any of the motifs by dragging them from the Catalog.

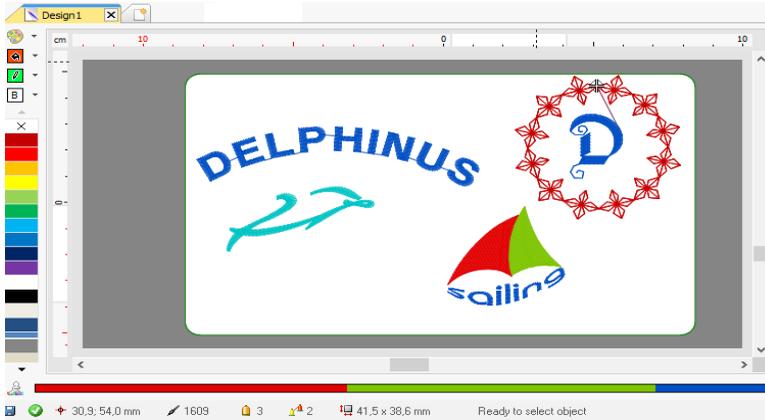


7. From the *Embroidery* ribbon > *Insert Embroidery Objects* group, click on *Lettering*. Choose *Arial Digitized Font*, height 12, and type *Delphinus* in the text area. Press Enter to get the text on the workspace. We used an upper arc arrangement. Modify size if necessary.

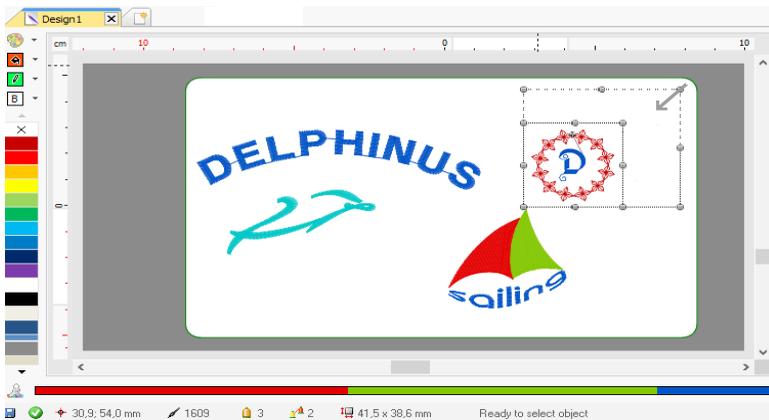
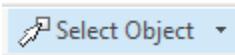


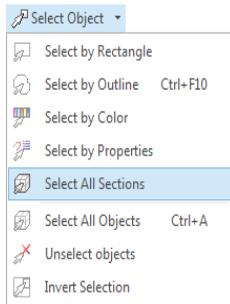


- From the *Embroidery* ribbon > *Insert Embroidery Objects* group, click on *Monogram*. Select a *Template*, insert a letter, and press enter to get the monogram on the workspace.

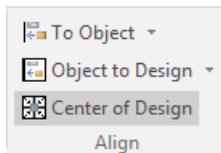
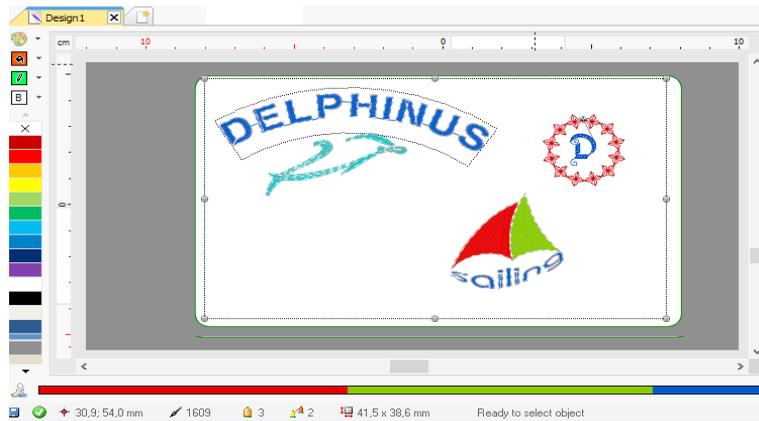


- Click on the *Select Object* button and click on the monogram to select it (it becomes surrounded by a dotted rectangle). Now you can scale it and move it on the workspace.





- Click on the arrow to the right of the *Select Object* button to open the menu of available block commands and click on *Select All Objects*. All the sections will be surrounded by a rectangle.



- From the *Block – Layout* ribbon > *Align* group, click on *Center of Design*. This will center the design on the hoop.



- Now you have to save the design. Go to the *File – Save* page > and click on *Save the Design Document*. Insert a Name and choose a folder and press OK. The Native Design (DSG) will be saved.



Export Embroidery Design Files

Save the embroidery design of the working window as a stitch file (expanded) in an embroidery machine file format

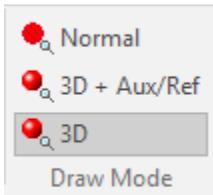
13. If you are going to take it to the machine, then you need to export the DSG file to machine code.

Go to the *File – Save page >* and click on *Export, and the on Export as.. Export Embroidery Design Files.*

Insert a Name (8 alphanumeric characters only), choose a machine format code, and choose a folder and press OK.

The Exported file will be ready to be taken to the embroidery machine.

14. To see how it looks like you can enable the 3D simulation view.
From the *View ribbon > Draw Mode* group, click on 3D.



You will see something like the picture below.



Chapter 6

Images and Vectors

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Working with Raster Images

With *Stitch Era* you can open a bitmap image of multiple formats and convert it into an embroidery or hotfix object. With the image applied in the work area, you will be able to use it as reference guide and trace the necessary stitches. In a quicker way you will be able to apply an automatic transformation from image to embroidery.

Note: You may insert an image before or after having started working on a design in *Stitch Era* this option will allow you to add new sections to designs that have already been started.

Supported raster image formats

The following formats are compatible with *Stitch Era*:

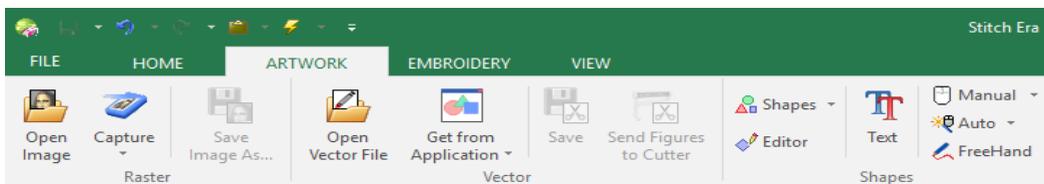
- BMP – Windows Bitmap
- JPG – JPEG Bitmaps
- PCX - Paintbrush
- TGA - Targa Bitmap
- CLP - Clipboard Format
- PNG – Portable Network Graphics

The working sequence with images is the following:

- 1) Acquire the image from the artwork by means of a scanner or use a graph created in any related application.
- 2) Scale the image to the final size.
- 3) Capture the design sections from the image outlines.
- 4) Save the design along with the reference image if necessary.

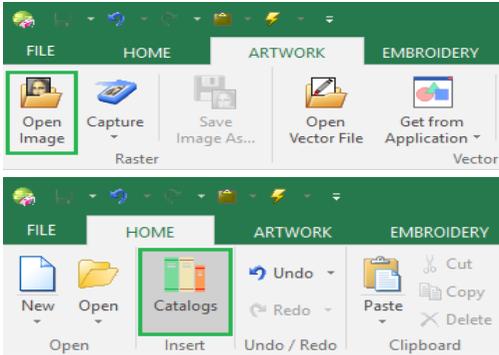
Below you will find details on each of these steps.

The Artwork ribbon contains all *Stitch Era* available commands to work with raster and vector images.



Open image

A way of inserting background images is to use those created using a graphics program, taken from a clip-art, or downloaded from the Internet.



Stitch Era allows you to load images through the button “Open Image” on the “Artwork” ribbon, “Raster” group.

You can also use the “Catalog” button on the “Home” ribbon, “Insert” group. On the Media tab, select Images-Raster.



After clicking on Open Image, the corresponding window opens. The contents of the Raster folder will be shown. You have some preloaded bmp. files. to choose from. Select any and press the Open button to take it to the working area.

To load any image:

In the lower part of the window the box “Files of type” allows you to select the image format.

- 1) Select drive and folder on the left side.
- 2) On the right side, click on the image.
- 3) Click on Open.

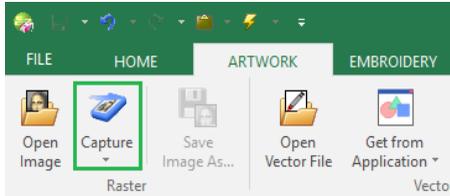
Note: The location of the preloaded Raster images is:
C:\Users\Public\Pictures\Sierra Technology\Artwork Bitmap

When inserting the image, the Image ribbon appears so that you can work over it.

Deleting an image

If you want to delete an image from the active document, simply select the image from the select object mode and press the “Del” key (Delete) .

Capture Image from Scanner



From the Artwork ribbon click on the button “Capture” and then on “Scanner Capture” to open the corresponding scanner dialog box. Complete the information required (mainly resolution and color mode). Though the way of working depends of the scanner you have installed, the normal process follows these steps:

- 1) Pre-scan to preview position and center image.
- 2) Select the area to be scanned.
- 3) Capture the selected area.

Once the scan is complete, the image will appear on the *Stitch Era's* active document. Remember the following parameters; they are very important when obtaining an image from a scanner:

Resolution:

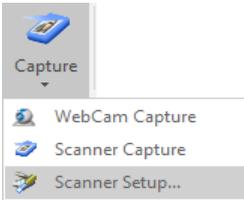
It is normally measured in dpi (dots per inch or points per inch) and it defines the brightness of the digitized image. The higher the number, the neater the image, but it will also use more system's memory. Except on 5x5 cm. or smaller images, a 300-dpi resolution is correct.

Color Mode:

You can capture an image in color or black and white. If you capture it in color, you must indicate the number of colors to be used. On most cases, a 256-colors mode is enough; if you use more color, the resulting image will be better viewed but will take more memory. If you wish to capture the image in black and white, you can use 256 shades of gray. Have the following recommendations in mind when scanning images:

- Only scan the area of the image that you will work on. This will result in smaller, manageable images.
- Use low resolution settings. On most cases, a 300-dpi resolution is enough. If you are going to work with the Photo type, the image used must have a high contrast level.

Configuring the scanner

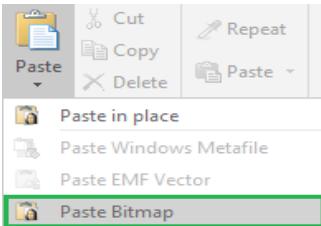


The scanner is a device that reads the images printed on paper or fabric. *Stitch Era* works directly with any Twain-compatible scanner already installed on your Windows system.

Note: Most scanners come with Twain-interface software. Refer to your scanner manuals to obtain further information on the controllers and how to install them. Once a scanner has been configured, you will not need to repeat this process.

Since you may have more than one Twain device installed on your system (for example a scanner and a desktop digital camera), it will be necessary to indicate *Stitch Era* which device to use. Proceed as follows:

- 1) Click on Capture > Scanner Setup...
- 2) A Select Source dialog box opens, showing all the available Twain sources.
- 3) Click on the source that corresponds to the device to be used and press Select.

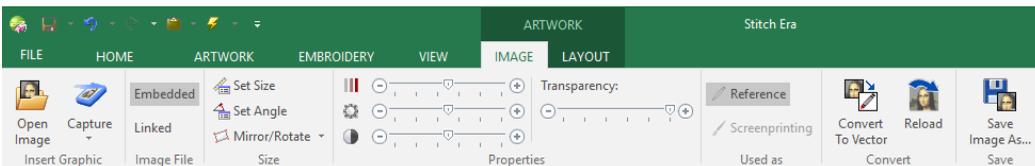


You may also insert a raster image using the Windows clipboard. Using your favorite application, select the image and press Ctrl+C.

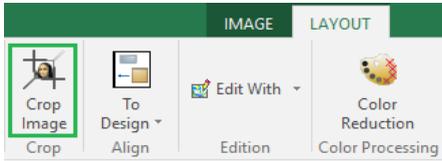
This action copies the image to the Windows clipboard. Then, activate *Stitch Era* and on the HOME ribbon, CLIPBOARD group, click on "Paste" and then on "Paste Bitmap".

The image will be inserted centered at the origin point (0,0).

Any time a raster image is selected, the Image ribbon is automatically displayed



Cropping Image



Click the button Crop Image and the cursor will change, indicating that it is suitable for cutting.

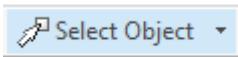
Draw a rectangle over the area of the image that you want to preserve and all the part inside the rectangle will be preserved, the part in the outside will be deleted.

Modifying Image Colors



Clicking on the button, opens a window, in which you can quickly reduce the number of colors of the image. The window is divided in two panes, one shows the original and the other the results. It also has zoom tools and pan for your convenience. When you are satisfied with the result press OK to take it back to the main working window.

Scale, rotate and move images manually



Click on Select Object (press F11) and click on the image you want to select. The image will become surrounded by a box with highlighted corners and centers.

You can work with the corners and centers to expand, compress, move and rotate the image freely.

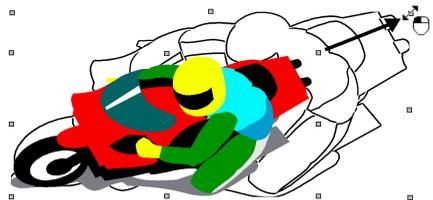
You can also use the commands to scale and align for a precise adjustment.

Note: Perform the necessary modifications on the image before starting to create the design. If you have already created sections and you change the size, move or rotate the image, it will be difficult to modify the modify the sections so as to adjust them to the modified reference image.

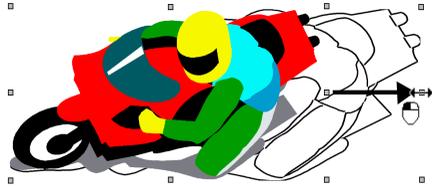
Click on the image and drag any of its corner nodes to adjust its size proportionally.

When dragging a determined corner node, the scaling will leave the opposite corner fixed in its position (right figure).

If you drag while pressing the Shift key, the scaling will be performed keeping the center of the image in its position, while all the corners scale following the movement of the mouse.



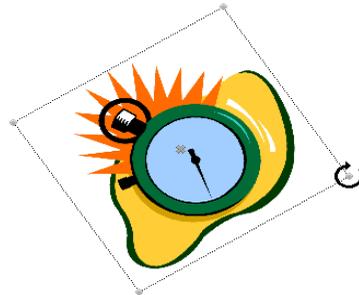
But, if you drag the pivot of any of the mid-sides, you can change only one of the dimensions (horizontal or vertical depending on the dragged side), as shown in the right figure. If you hold down the Shift key while dragging, you will be able to move both vertical and horizontal sides in a symmetric way.



Taking the mouse pointer next to the central zone, changes the cursors shape, then you will be able to move it freely along the design area.

To rotate the image, while holding down the Ctrl key, click and drag any corner node. Observe how the image border is modified as well as the mouse pointer (right figure).

To finish this operation, simply release the mouse button.



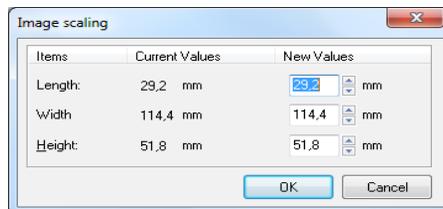
Scale image & Shape



Once you have the image on the screen, whether it was in the disk or scanned, you can perform certain operations such as expand / compress, slant or rotate the image. Such modifications can be done manually or controlled from the Artwork Image-Layout ribbon, changing the values of the boxes Size (Width, Height) and Position. If you want to modify the size in the same proportion, you must activate the padlock icon as you can see on the example box of Size & Position.

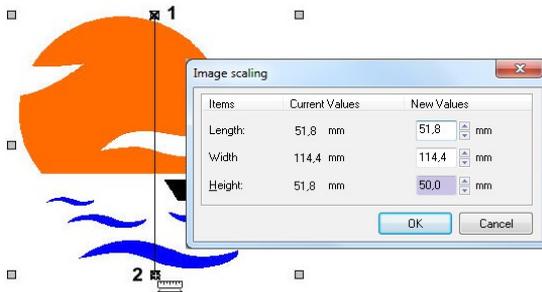
Set Size (scale Tool)

This option allows you to precisely adjust the size of a reference image, altering its original size according to the correct measure of the image segment. This allows you to work with an image with the same dimensions that the final design should have.



The working method is the following:

- 1) Click on the Set Size icon. Click on any point of the image and drag it. *Stitch Era* will trace a line from the point to the mouse's position.
- 2) Release the mouse buttons. The Image Scaling window displays the length of the traced line and allows you to define the new value. Type in the corresponding size.
- 3) Clicking on OK, the image will be scaled so that the traced line has the indicated new size.



For example, if your design has to have a maximum height of 50 mm., after inserting an image select the Measure and Scale tool, click on the upper part of the image (shown in figure as point 1), drag downwards up to the silhouette end and release the button in point 2, so that the Scale image box will open showing the length between points 1 and 2, while it allows you to indicate the new dimension that that distance has to have.

For this example, type 50 in the box placed at the right of the Height row, and press OK, all the image is scaled so that the segment 1-2 measures 50 mm. You can also use the Width and Height controls to give an exact size to the entire image.

Set Angle (Rotate Images)



Fixing the rotation angle is useful for some works where you need precision. Look at the next sample: We want the image to show the hand totally vertical and not as in the original image.

- 1) Click "Angle" and draw a line as indicated in the figure



- 2) Releasing the mouse button appears a dialog box to set the new angle of the line drawn. Set the value "0"



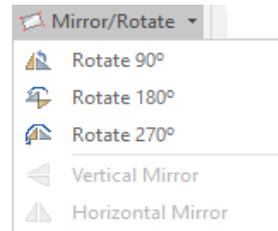
3) When pressing OK, the image will be rotated so that the line drawn is horizontal, which means the hand is totally vertical.



Mirror/Rotate

The application gives you the possibility to rotate an image to specific angles (90, 180 and 270 degrees) and to mirror horizontally and vertically in the working window.

Click on the button Mirror/Rotate to get the available options.



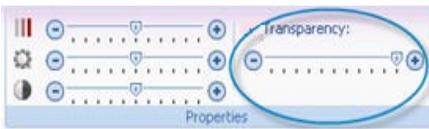
Properties

Saturation, Brightness and Contrast



This type of edition is the same as with any basic image editor. Moving the slider of each control to modify the Artwork.

Transparency



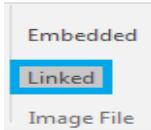
From the box Properties you can modify the level of visualization of the image you have in the working area. The lower the percentage of transparency the dimmer the image will be. At the lowest value the image will disappear.

Image File Modes: Linked and Embedded

Stitch Era stores, inside the design file, information about the images you loaded, so they can be displayed the next time you open the design. By default, the images are "Linked", that is, instead of storing the image itself into the design, only the location within your disk is stored. This is good to keep design files small but, if you move the design to another computer, the link fails. For those

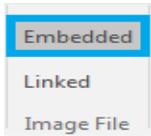
cases, you may “Embed” the image, that is, instruct Stitch Era to store the image, not the link, inside the design file.

Linking Images



Stitch Era will save a link to the image, so the next time you open the design the image will load with the same position, size and rotation angle. It is required that the image be kept on the disk with the same name and in the same folder where it was when it was added to the design (default).

Embed an image

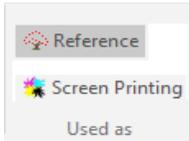


With the image selected, just click the button Embedded. *Stitch Era* will store the image within the design file.

Images are automatically switched to embedded when you modify them, for example when cropping or reduce its colors. This is also the default mode for images pasted from clipboard.

Using Raster images as...

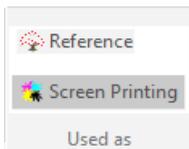
Reference images



Usually, images are loaded to be used as reference for design creation. They will become hidden when you activate the simulation window.

Open the Object Manager to see the Document Map, which consists of several tabs. If a raster image is used as Reference, it should only appear in the Auxiliary tab.

Screen Printing images



On some cases the image is part of the final design, for example as background of the embroidery. In this case, set the image as screenprinting, so it will be showed, along with your embroidery objects, in the simulation window.

Open the Object Manager to see the Document Map, which consists of several tabs. If a raster image is used for Screen Printing, it should only appear in this tab.

All images no matter what kind they are will appear in the ALL tab.

Save



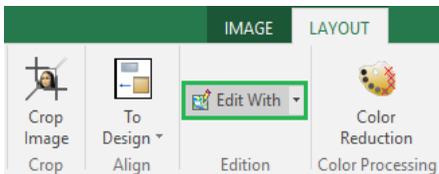
If you are planning to work with an image taken from the scanner in several sessions, you must save the image on your disk, so that it will be available the next time you open the design.

To save an image:

- 1) Select the image.
- 2) Click on *Save Image As*, on the *Artwork-Image* ribbon, *Save* group.
- 3) In the *Save Image* box, choose folder, name and format with which you want to save the image and press *Save*.

It is recommended to use the default Image folder to save the images, even to save the new graphic files that you copy or produce.

Edit Image with...



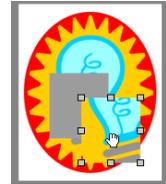
When selecting an image inserted in the work area, you may edit it using any of the programs available at *Edit With* command, group *Edition*, *Artwork-Layout* ribbon.

Generally one of the programs available is the Windows MS-Paint.

No matter the source of the images (i.e. digital camera, scanner, Internet, etc.), all of them can become an embroidery design. But before that, it is necessary to prepare them for an adequate interpretation, cleaning the impurities or imperfections the images may have.

In order to expand or compress the size of the block or vector drag any of the points that outline the figure, moving it and move them until achieving the desired size.

To perform a rotation, press the Ctrl. key when dragging any of the corners until giving the figure the desired slant.

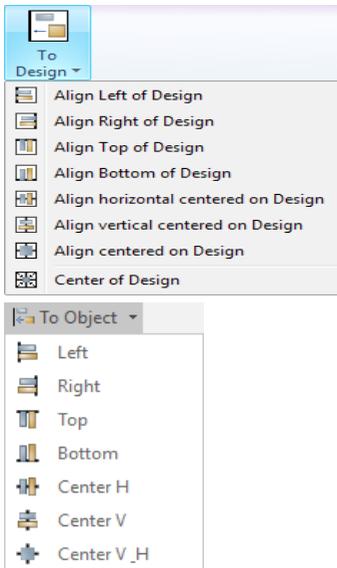


Images Layout ribbon

The Layout ribbon is available any time an image or group of images is selected.



Aligning



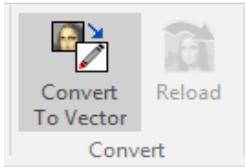
Two groups of Alignment tools, to arrange your images among them or regarding the design boundaries are available at the Align group.

Object to Design: contains tools to align the whole block of images with respect to the design boundaries.

Center of Design: Moves the whole block of images to the origin (0,0)

To Object: contains tools to align the selected images with respect to themselves.

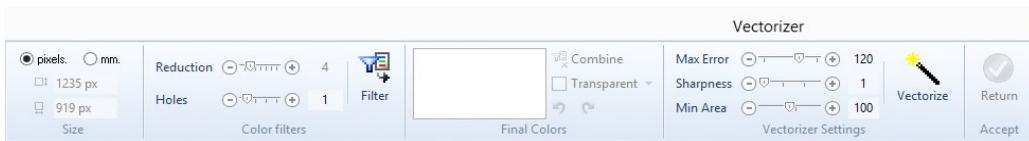
Convert to Vector



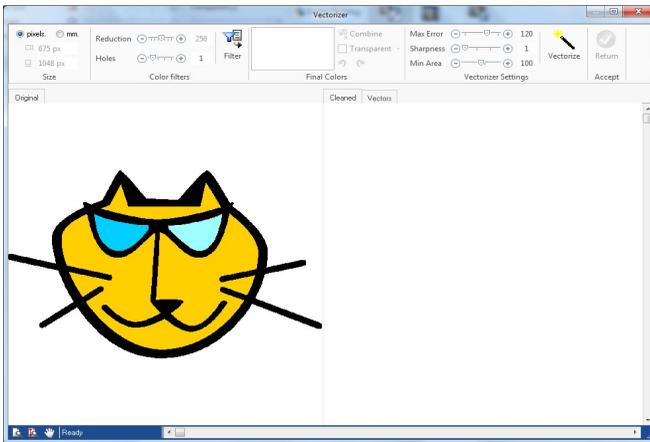
Stitch Era includes a complete vectorizer in order to transform a bitmap image inserted in the working area into vector figures. Remember that after making the conversion, you will be able to quickly create the sections of a design from each of these vector images.

To work on a bitmap image select it and activate the command “Convert to Vector”, from the Artwork Image ribbon > Convert group.

The Vectorizer box then appears. In it you will find a series of controls on the Vectorizer ribbon, while the rest of the box will show a preview.



Observe at the top of the Previews there are three tabs, each of them allows you to visualize the three stages by which a vectorized image should go through: the “Original” figure, the “Cleaned” figure and, finally, the vectorized result.



To make a zoom of the sample set out in the preview (in any of the tabs) using the command window available in its lower left corner: you can make a specific zoom, zoom in whole or pan.



Basically, you can follow two steps in order to vectorize the image. These are explained below:

Step 1 - Clean the image

This first stage implies reducing the complexity and noise of the graph, for the result to be as clean and clear as possible. Since *Stitch Era* vectorizes the image scanning its changes in tone, this first task is important in order to obtain good results. Have in mind that the cleaner and clearer the image, *Stitch Era* will better interpret its shapes.

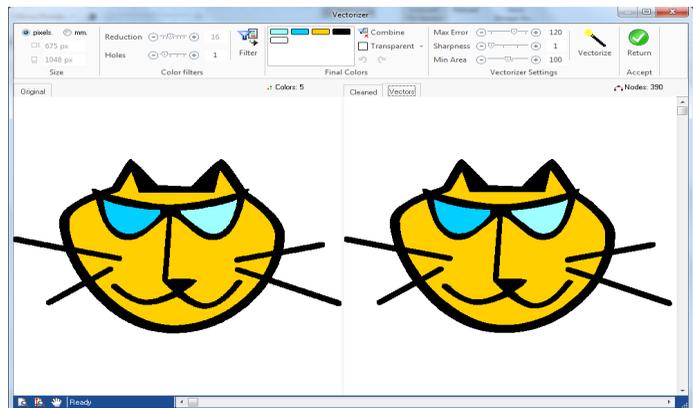
From the first sliding controls of the Vectorizer you can optimize the image, trying to leave it as clean as possible, clearly defining its shapes and borders and getting out the colors mix that “dirty” the result, causing the so called impure images.



These controls are the following:

- **Reduction:** Moving the slider to the left you reduce the number of colors in the image, this is the first filter you should control, reducing the colors without deforming the image.
- **Holes:** This control eliminates the noise in the image, this noise is composed by small pixels dissociate color, called “holes”. As you move the slider towards the right, the application will eliminate the biggest holes.

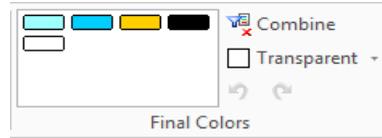
After configuring the controls, click on the Filter button for the application to show you the result in the Clean tab of the Preview.



In the figure observe the Preview box after Filtering the image, see that the Cleaned tab is activated

According to the result obtained, modify the values of the controls previously mentioned, until you fulfill your expectations. Do this as many times as necessary.

After cleaning the image and having obtained the convenient result, use the two following controls. Their function is explained below:

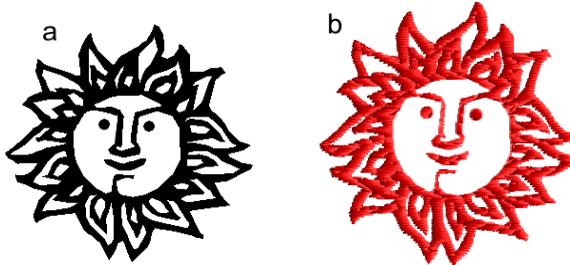


- **Combine Colors:** From the colors view select those tones that are similar, and click on the Combine button for them to merge. It is convenient to reduce the number of colors of the image when possible, in this way the application will be able to distinguish easily the changes in tone, thus obtaining more precise vectorization. To select two or more colors, press Ctrl and click on the color to merge, then press the Combine button.
- **Transparent Color:** *Stitch Era* scans the image and captures the background color of the image so as not to include it in the vectorization since, when vectorizing the background color of the image it will form a figure that will “frame” the result. Observe the next image on the right; it is a bitmap inserted as image in *Stitch Era* which background is gray.

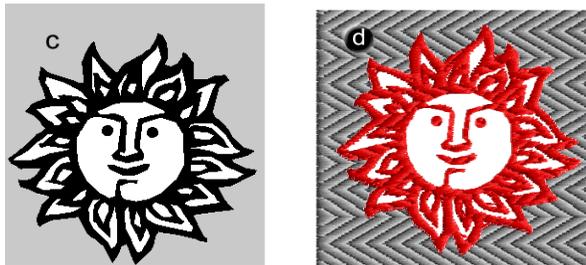
Now, as an example, the following image will be vectorized changing its transparency color.

In the following examples, figure (a) is the result of vectorizing the image defining the gray color as transparent.

When converting into stitches, you will obtain the result shown in (b). Note that the design does not reproduce the gray box that frames the original representation.



On the other hand, figure (c) shows the result of vectorizing the image used as model specifying that the white color should be transparent. In this case, when converting all the vectorial figures in stitches sections, the result will be the one shown in (d).



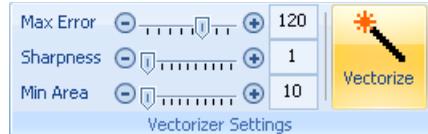
Note: You should apply one or other method depending on the result you want to achieve.

Step 2 - Vectorize

Here you should transform the image (free from noise) in vector shapes.

Once you have created the vector-based figures, you will be able to work on them freely: you will be able to scale them, modify their shape changing the nodes, change their color, etc. The creative possibilities, when the original bitmap image is vector-based, are many. It all depends on your imagination.

For this to happen you must configure well the items that define the characteristics of the created vector (right figure). These are described below:



Max Error: This control defines the curvature degree that the trace will have. It increases or reduces the precision the vector curve will have regarding to the original bitmap.

Sharpness: If you increase this value, the number of nodes that the created vector-based figure has will decrease, thus obtaining a sharpened result.

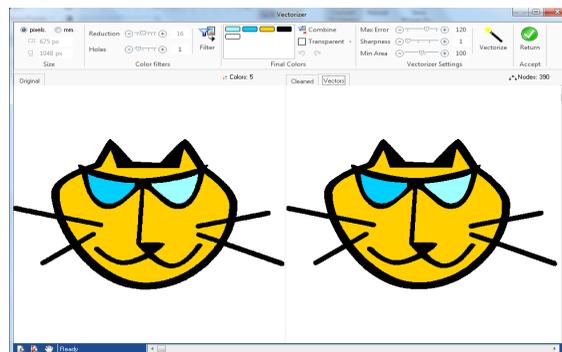
These two controls define the curvature degree that the vector will have. High values of these controls results in rounded outlines. If these items have small values, the trace of the vector-based figures will adjust to the outlines of the bitmap image.

Min. Area: It eliminates the small surfaces, according to the value specified in the sliding control. It is useful to exclude the smaller elements from the vectorization.

Observe the result that the chosen values will produce when vectorizing the bitmap image from the Vector tab in the Preview frame.

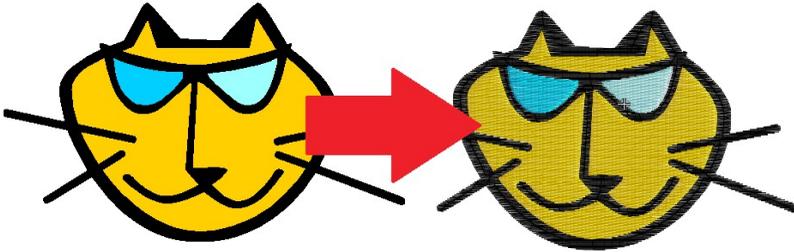
If you click on the Vectorize button you will confirm the values entered to create the vector Figures. These will reproduce the shape presented in the Vector tab of the Preview.

Upon pressing Return, the vector figures will appear in the work area.



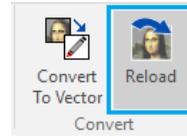
Finally, you must create sections as from these vector figures, choosing carefully the type and fill they will have (See Art to Stitch digitizing chapter).

You must define the orientation of the direction lines, the location of the entry and exit points, the correct sequence of sections, etc. according to the figures that form the design.



Reload

This tool brings back the original image without the modifications you had done over it since you inserted it on the work area. If you edit an image (crop, reduce colors, etc) it will be automatically set as embedded and reload function will be disabled.



Working with Vectors

Stitch Era allows you to work with vector-based images; these are a new method to easily digitize shapes of all types, also having the opportunity to combine two or more figures so as to obtain complex structures.

Once you obtain the desired figure, you will be able to convert it into a section (Auto-Digitizing) thus simplifying the creation process.

If these vector-based figures are not deleted before saving the document, they will be saved together with the design. This will be useful if you want to modify the created shapes in next editions.

Vector-based graph: Contrary to the bitmap graphs (or BMP) the vector-based figures are created as group of lines and not as individual points or pixels patterns.

Supported vector formats

The following formats are compatible with *Stitch Era*:

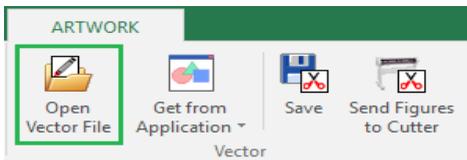
- WMF - Windows MetaFiles
- EMF - Enhanced MetaFiles
- CDR – Corel Draw
- CMX - Corel Presentation Exchange
- AI - Adobe Illustrator
- Imaging - EO Imaging
- DXF - Drawing Exchange Format
- PLT - Vector Plotter Files

Note: To use the CDR and CMX formats you will need to have Corel Draw® installed on your system. To use AI formats you will need to have Adobe Illustrator® installed.

To insert a vector artwork you can use the tools available within the Artwork ribbon, or you can use the Catalog tool on the Home ribbon.



Open a Vector File



A way of inserting background vectors is to use those created using a graphics program, taken from a clip-art, or downloaded from the Internet. *Stitch Era* allows you to load vectors from disk through the button Open Vector File on the Artwork ribbon > Vector group.

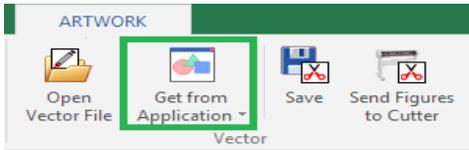
The Open window appears, showing the images available on disk in different formats. In the lower part of the window the box Files of type allows you to select the image format.

To load an image:

- 1) Select drive and folder on the left side.
- 2) On the right side, click on the image.
- 3) Click on Open

If you want to delete a vector from the active document, simply select the image from the select object mode and press the "Del" key (Delete).

Get Vector from CorelDraw and Illustrator



Stitch Era is compatible with Corel Draw versions 10, 11, 12, X3, X4, X5, X6 and X7 and Illustrator if these applications are installed in your computer.

In this way you will be able to insert any vector-based figure made in Corel Draw or Illustrator but not bitmaps imported to Corel/Illustrator or word art. Once working with *Stitch Era* you will be able to edit the figures in the same way that you work with the vector-based created within the application.

Note: For the correct performance of these utilities, it is necessary for Corel Draw or Illustrator to be fully installed.

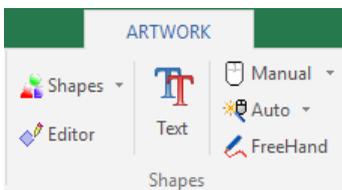
Paste from Clipboard

Certain image creation applications allow you to copy an image file type you are working on (Windows Metafile, EMF, etc.), to the Clipboard. This is recommended for certain sketches with a high level of elements, or when it is necessary to obtain more precision (better level of detail). You may then paste it in *Stitch Era* using these commands.

Located in Home ribbon>Clipboard group>Paste...



Create vector figures

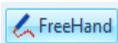


With *Stitch Era* you can create vectorial figures in different ways: from the *Artwork ribbon* > *Shapes* group.

The geometric figures available to insert are organized in Shapes, Editor and Text figures. You can also create vector figures manually with bezier curves or freehand.



Bézier: This tool is based on the sketch possibilities that allow Bezier curves.

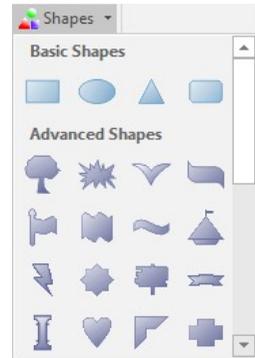


FreeHand: To trace freely open figures, drawing directly in the working area.

Shapes

To insert any of the figures, choose the tool from the Artwork ribbon > Shapes group. From the list that appears, you have Basic and Advanced Shapes; Extended Shapes; Puzzle1 and Puzzle2. Click on the desired one. Then, press the left mouse button on a point of the working area and drag without releasing it, while doing this the shape of a figure will be progressively formed. To produce perfect squares (if working with rectangles) or perfect circles (if working with ellipses), keep the Ctrl key depressed while dragging the mouse.

Once the outline has the size and shape you need, release the mouse button. Immediately after creating the figure, it will become editable for you to adjust its size and shape.



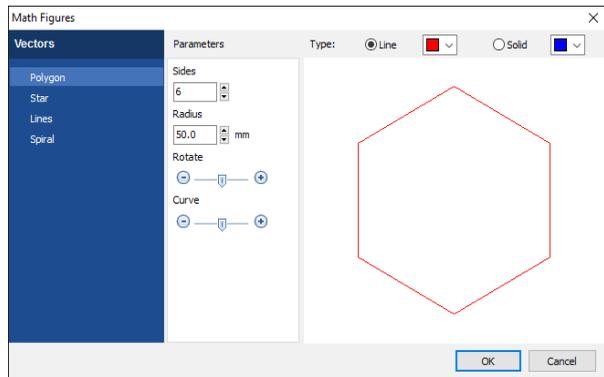
Editor

Stitch Era allows you to create vector figures using a very easy interface.

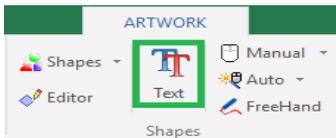
Select the type of vector you want to create: Polygon, Star, Lines or Spiral; adjust some Parameters;

Select if you want the outline or a solid figure, and their corresponding color.

Press OK to create the figure.



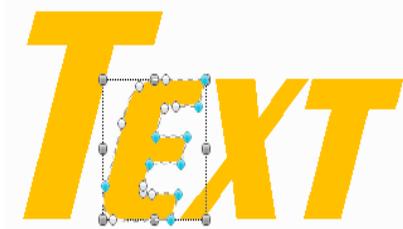
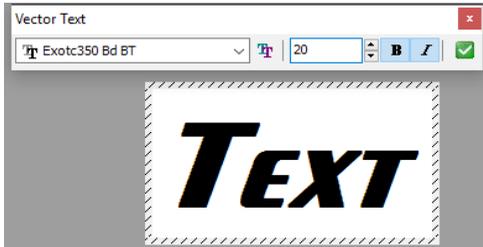
Vectors based on TrueType texts



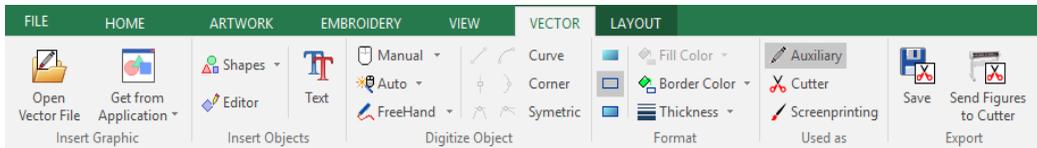
Pressing this button opens a dialog box that allows you to type text or lines of text, including selecting the font and size and presentation.

To create multi-line texts, once you have inserted the first text, press CTRL + Enter to begin a new line, and type the second text.

Once you have finished inserting the text, press the green check, to take it to the working window.



Any time a vector is selected, Stitch Era shows the Vector ribbon with all the tools to work with them.



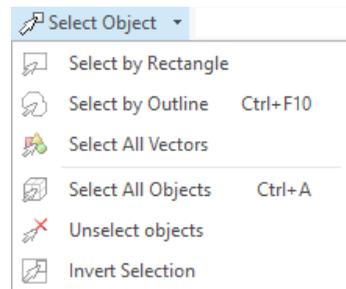
Editing Vector figures

Vector Objects Selection

All vector figures inserted in Stitch Era are editable, such transformations are done using them together or modifying nodes individually.

To select any object located in the main work area press the *Select Object* button (F11) and click on the object you want. Immediately see a box on it that lets you manually resize, while the ribbon changes to provide the necessary tools needed to edit the object.

Click on the *Select Object* arrow button to display the different selection options:





Select by rectangle

From left to right: Select the objects that are fully included in the box
From right to left: Selects the objects "crossed" by the rectangle.



Select by outline

Draw an outline "node to node" around the figure you want to select. When you finish surround the object, press ENTER or mouse middle button and the object will be selected. This mode of selection is really useful when you have overlapping figures.



Select all objects

Select all objects (vectors, images, embroidery and / or stone that are in the work area.

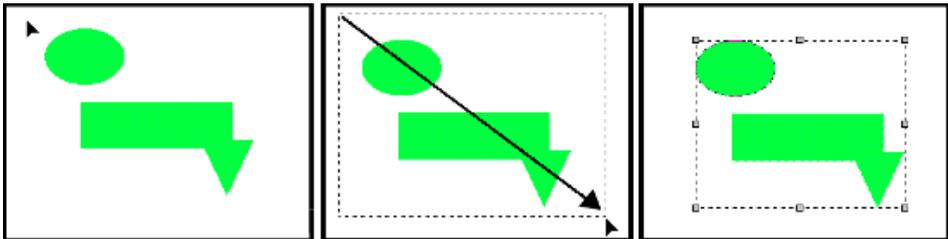


Invert actual selection

Change the selection excluding selected items and selected those that were previously outside the selection.

Selecting two or more figures

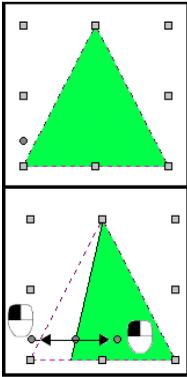
To select several figures close between each other you can click on the working area and, without releasing the mouse button, move until the dotted box embosses the figures you want to work on (next figures).



You can also select more than one figure by pressing the Ctrl key and clicking on the elements you are going to work on.

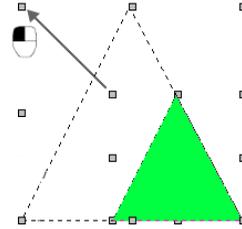
Instead, if you press the Shift key at the time of clicking two figures, you will select all those objects that are between both figures in the corresponding sequence.

Scale and Rotate graphically



In certain figures (for example the triangle) the modification points appear active (left below image). These allow you to change the original shape.

The vector-based figures (either created from *Stitch Era* or imported from different applications) are liable to transform, modify their curves, merge and convert to embroidery sections. You can expand, compress, rotate and move images manually, in the same way you can do it with any other image (right figure).



Press the Ctrl key to rotate the figure or modify its rotation pivot. Press the Shift key to modify the size of the figure fixing its center.

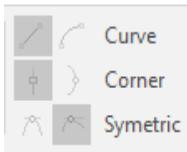
If necessary, before you continue working with the figure, adjust its aspect and location, since by dragging the corners you can proportionally modify the height and width at the same time, while by dragging the pivots you expand or compress the figure in one direction (either the height or the width).

To move the figure to another location of the working area, simply place the mouse pointer to the center of the figure and when this pointer changes its shape (cross with four arrows), click and drag towards the desired position.

To perform modifications in more than one figure at the same time, simply select the figures that will be involved in the modification and perform all actions on all of them at the same time.

These figures are placed following the order in which they were created, reason why some will be on top of others.

Edit Nodes



The vector-based figures are made of nodes, that behave similarly to those that make the embroidery sections. For more information about the operation with nodes see chapter "Manual Basic Digitizing".

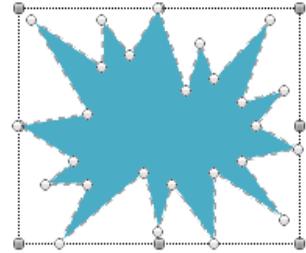
Once the vector-based figure has been created you can modify the nodes that give shape to it as well as the layout of each node's handles.

To do so, click on the Select Object tool, and then on the desired figure. From the context menu, click on *Convert to Curves*, to see its nodes.

Now that the figure has been converted into curves you will be able to alter its geometry, modifying the location of its nodes and the layout of its handles.

You can also eliminate nodes, create new ones, etc. Operate on the nodes in a similar way to that used when you work on the nodes of an embroidery section.

These options are available from the context menu.



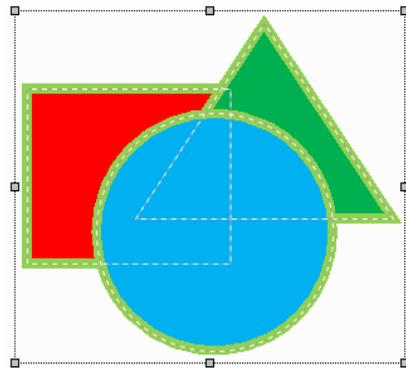
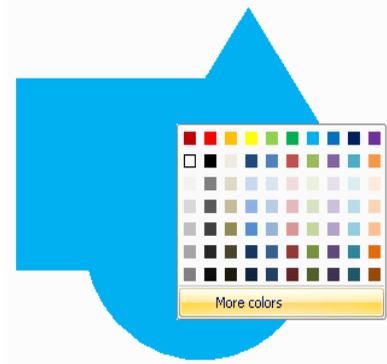
Vector Color and Format



This box allows to modify the border and fill color of the vector-based figure selected, modify the border width or add/remove it.

You can choose a vector only with fill, only with border or both. In the left picture both are selected.

This option is useful for those cases where you must work on several overlapped figures.



On the right figure please note that the color of each figure has been modified, improving considerably the visualization of the elements.

Setting colors from the color palette

The color bar or color palette may be used to set or change the border and fill color of vector objects. With a vector object selected, clicking any color within the palette will fill that object with the pointed color. Clicking the color with the right mouse button, sets the border color for that object.



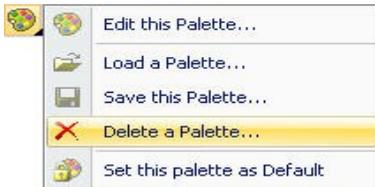
The first element in the color palette is a special item. It represents the “No color” entry and may be used to remove the border and fill color of vector objects.

Clicking the no color item eliminates the vector fill color

Clicking the no color item with the right mouse button, eliminates the vector border

Note: You cannot eliminate border and fill colors at the same time.

Managing Color Palettes



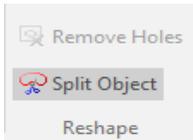
Edit this Palette: Allows you to access a dialog box with options to select and edit a color palette.

Load, Save and Delete a color palette: Get a dialog box that lets you work with color palettes.

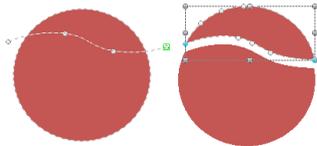
Set this Palette as Default: Each time you open a document vector, this color palette appears.

Reshaping Vector Objects

Vector Split



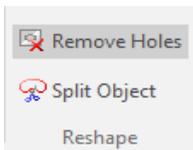
This tool allows you to split a vector object using an arbitrary line (defined by a sequence of nodes).



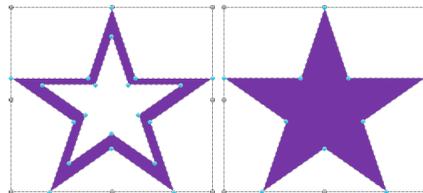
Once the splitting line is defined, press the Enter key, to execute the operation.

This tool is available from the Artwork – Vector – Layout ribbon > Reshape group, and also from the context menu.

Remove Holes



Automatically deletes all the holes of the selected vector object.

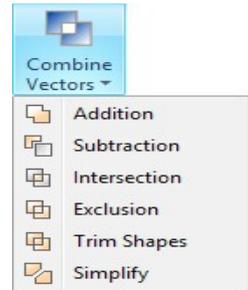


This tool is available from the Artwork – Vector – Layout ribbon > Reshape group, and also from the context menu.

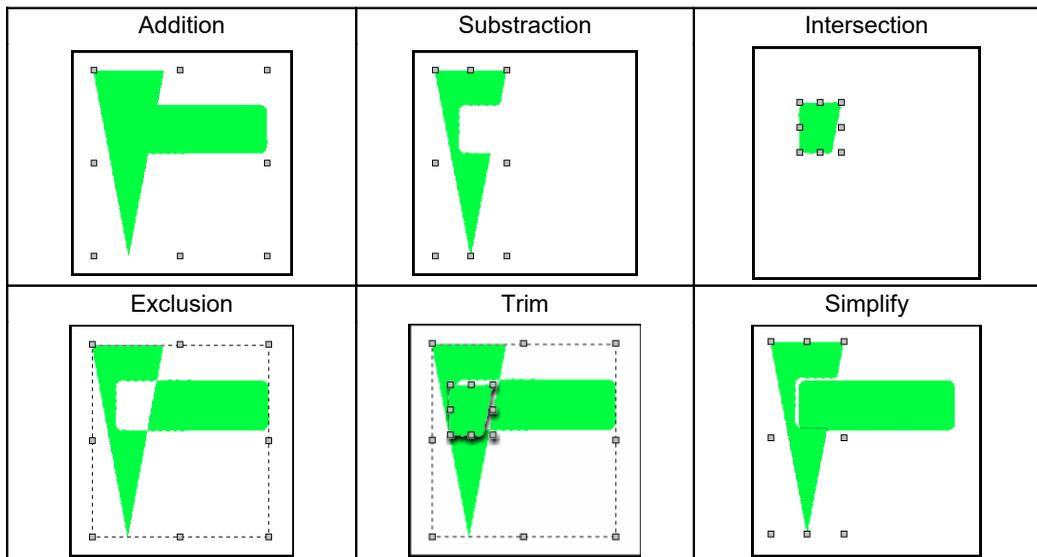
Combine Vectors (Shaping)

Using the Shaping tools it is possible to create shapes resulting from the intersection of two vector-based figures. Have in mind that if you have full command of this technique you will be able to sketch complex shapes with little effort.

In this way, the combination of several shapes creates one only figure (in most cases), or performs modifications in the geometry of both figures. You can combine the different types of figures available in the application to create new shapes easily. The procedure to combine figures is the following:



To give an example we will apply each of the described combinations to the figures presented in the figures next, so you can see the different results obtained.



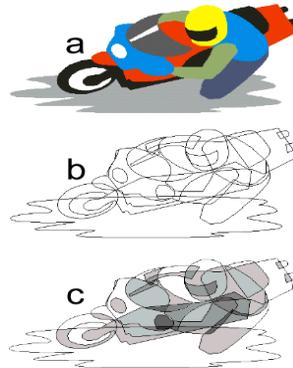
This tool is available from the *Artwork – Vector – Layout* ribbon > *Combine* group > *Combine Vectors* or from the context menu. It is very useful whenever you have to work on vector-based images, since some shapes are made up by several figures, and many of them can be overlapped.

In the three figures next see how the vector-based drawing is formed, pay attention to the number of overlapping zones it has.

In figure (a) appreciate how you view the image in *Stitch Era's* Graphic View, see that it looks like one only element at first sight.

Nevertheless, in figure (b) you can see the outlines of each of the figures that form the sketch. You can see that it is composed by several overlapping elements, one on top of the other.

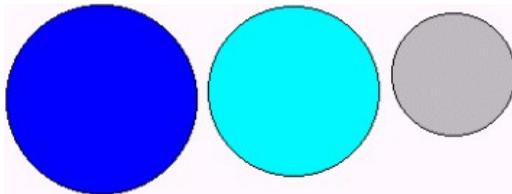
In figure (c) each of the overlapping zones were painted in gray. Note that there are darker areas, since several figures overlap there.



Avoiding large overlaps

To create some designs, you can use sections that, when overlapped, form one only figure, nevertheless, it is convenient to consider some aspects before starting the procedure.

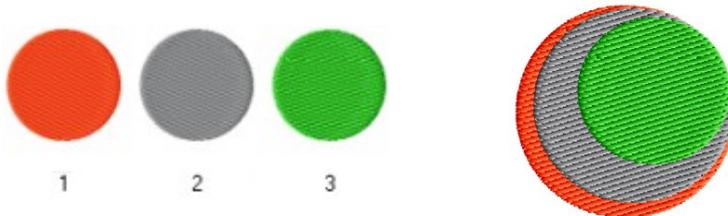
For example, to create a design with the shape shown on the figure, you can overlap the sections shown in the following figure.



From the embroidery point of view, such overlap of sections is not recommended.

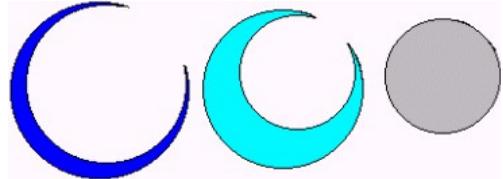
Observe in the following figure the result of the design created as from these three overlapped figures.

Note that the sequence of sections will result in a design which even if it is correctly viewed on screen, it will have some problems at the time of embroidering, because of the big number of stitches of each layer that are overlapped in one area.

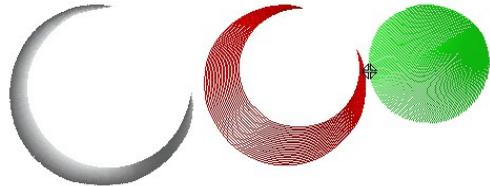


Consider that a little overlap should exist between sections, but not large ones. This overlap is necessary to avoid section separation due to the thread tension at the time of embroidering.

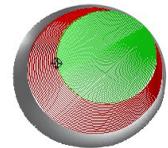
To correct the situation showed in the example, you must capture the following sections, and place them in such a way that you obtain the same result.



The design is formed by the sections shown on the right figure; this sequence of sections will reproduce the original design but will not create big areas of overlaps of stitches.



If you capture the adequate sections you will obtain the design shown on the right figure, which even though it is similar to the previous one and does not present big changes on screen, it does not present overlapping, this difference will be very noticeable mainly when generating the embroidery in the machine.



Group & Ungroup Vectors



It is possible to group two or more vector-based figures to be considered a unit. In this way, it will be possible to move them, apply the same transformations in shape and other changes to all the figures in the group at the same time.

It is also possible to merge other groups already created, thus creating nested groups.

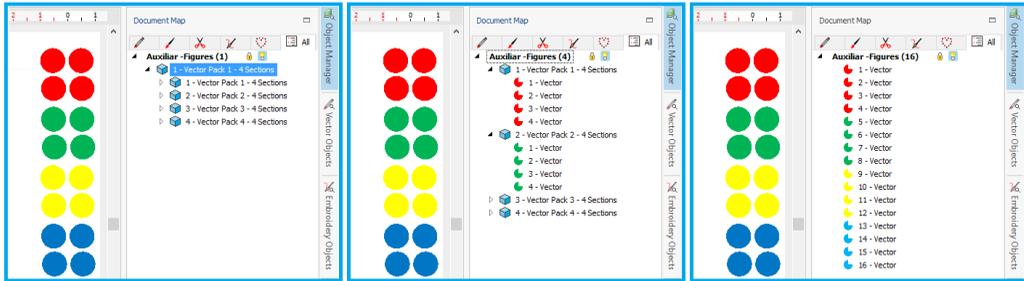
To create a group select the figures to activate the Group command from the *Artwork – Vector – Layout* ribbon > *Grouping* group or from the context menu (Group Objects > Vectors group).

Ungroup and Ungroup all

To ungroup the figures that form a group, select the group and then choose the option Ungroup. If you have created nested groups (groups made by other groups), the Ungroup command explodes just one level, while the Ungroup All explodes all the groups and returns the original objects completely ungrouped.



This option is very important whenever you insert wmf or emf images, since it is made up by a series of grouped vector-based images. Apply this function to edit any of these figures.



Two grouping levels

Ungroup (1 level)

Ungroup All

Vector Order



In the edition of vector-based figures, you will be able to modify the layout of the vector-based shapes from *Artwork-Vector-Layout* ribbon > *Order* or from the context menu option “Change Order”.

The options are:

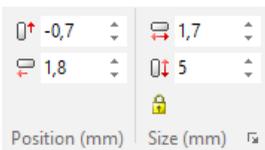
Front: It sends the selected element to the front, before the rest of the objects, placing it in the forefront.

Back: It places the selected object behind the rest of the objects.

Move Forward: The figure selected moves one level forward.

Move Backward: The figure selected moves one level backwards.

Accurate Size & position control



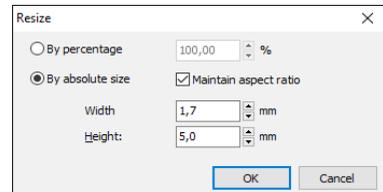
Once you have the image on the screen, no matter whether it was in the disk or scanned, you can perform certain operations such as expand / compress, slant or rotate the image.

To access these tools, select a vector and go to the *Layout* tab.

Position: Allows to control the exact location (vertical and/or horizontal coordinates) of the upper left corner of the box that surrounds the edited figure.

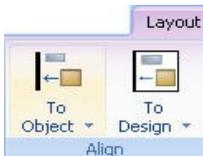
Size: This group lets you precisely control the size of the object. The padlock icon sets the proportional mode: when pressed, changing one of the object's dimensions (width or height) will automatically adjust the other in order to keep the object aspect ratio. When unchecked, you can control both, width and height independently.

Clicking on the small icon at lower-right corner will open a box from where you may set the dimensions as a value or percentage.



The Scale and Shape options, work the same way as for bitmap images. Please look at the explanation given there (page 10).

Alignment



These functions allow you to place the vector figure on a determined location, left, right, top, bottom or center, in both directions or in either of the two.

You will also be able to access the tools from the vector's context menu.

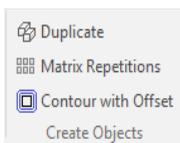
You have two alignment possibilities:

To Object: This tool aligns the objects inside the block to left, right, top and bottom, using as reference the leftmost, rightmost, upper and lower object of the block. You can also align the center of the objects horizontally, vertically or both.

To Design: Contains tools to align the whole block with respect to the design, that is, with respect to all other objects not included in the block.

Center at origin: Moves the center of the block to the system origin point (0,0)

Vector Repetitions



The following functions allow you to repeat one or more times the selected figure/s. You can access these commands from *Artwork - Vector - Layout* ribbon > *Create Objects* group or from the context menu options.

Duplicate



This command performs a copy and paste of the selected vector/s in only one step. It always works on the active document. Pressing the button more times makes another copy of the selected vector/s you copied the first time.

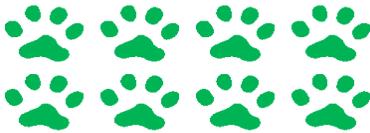
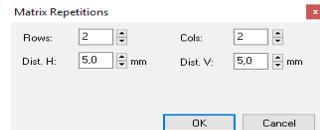
Matrix Repetitions



Use this function to duplicate the vector/s a certain number of times; the copies of the vector/s will appear adjusted to a mold in the shape of cells.

Define the number of rows, columns and the horizontal and vertical distance from the matrix cells. To work with this tool, follow the procedure below:

- 1) Select a group of vectors (paw) and from the Layout tab click on Matrix Repetitions.
- 2) In the Matrix box set the number of rows and columns, and the distance between them, horizontally and vertically.



Click on OK to see the result in the work area, the vector/s will repeat a number of times depending on the values entered.

In the example shown in the left figure we chose a number of 2 rows and 4 columns to repeat the paw vector.

Contour with Offset



Use this function to create one or more vector lines, outside or inside the original vector's shape outline (contour) separated a defined distance one from the other.

After selecting Contour with Offset, the "Create contour" window will open. You have several predefined contour options to choose from:

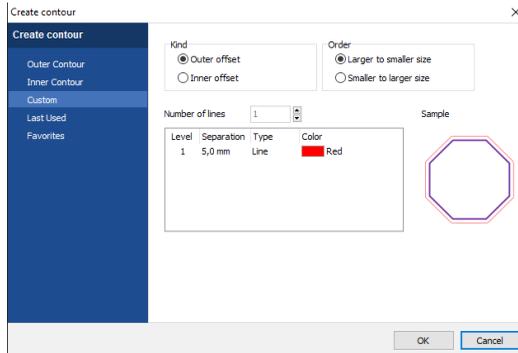
Outer Contour, that makes the new vector/s towards the outside of the original vector;

Inner Contour, that makes the new vector/s towards the insides of the original vector;

Custom, lets you define whether you want to make an inner or outer contour; the order in which the vectors will be made; the number, separation and color of the new lines.

Last Used shows the most frequent ones.

Favorites shows all the ones which you have marked as favorites in Outer or Inner Contours. To copy a predefined contour to the favorite tab, just go to the Outer or Inner Contour tabs, click on the desired one and press the yellow star found on the same tab.



Also on the Inner and Outer Contour windows, you have an **Edit** button on the right that let's you see and modify the selected contour.



Export Vector Images

Saving Vector Images to Disk



You can work on vector figures and use the tools provided by the application to modify the vector graphics. Afterwards you can save the vector to disk directly from the application.

From the ribbon *Artwork-Vector-Layout* > *Export* group > *Save* button...

Save the file under EMF format, compatible with many programs that use vector graphics, DXF, and PLT. Depending upon the format selected, the border and body or just the border will be saved.

When you import or open vector images composed of many vectors, you must ungroup to start editing each one of them.

If these vector shapes are not removed before saving the document it is saved with the design. This is useful to change created saved forms in later editions.

Send Figures to Cutters



You can send a vector shape, a group of vector shapes or the entire vector image to the vinyl cutter. The cutter driver provided by the cutter manufacturer must be previously installed.

From the ribbon *Artwork-Vector-Layout* > *Export* group > *Send Figures to Cutter...*

Using Vector images as...

Auxiliary images

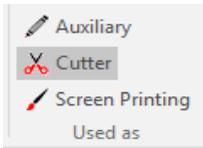


They are loaded just to be used as reference for design creation.

When you enable the 3D embroidery simulated mode, the Auxiliary images will become hidden. To view the auxiliary images again, just disable the simulation view.

Open the Object Manager to see the Document Map, which consists of several tabs. If a vector image is only used as reference, it should only appear in this tab.

Cutter images

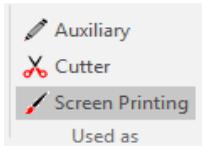


These figures are the ones that will be sent to the cutter device.

When you enable the Simulation View, the Cutter figures will be visible on the workspace.

You can turn an auxiliary image to a cutter one, just by selecting the auxiliary image and clicking on the Cutter button. The converted image will no longer appear in the Auxiliary tab, but will be now shown in the Cutter tab.

Screen Printing images



You may load an image that is part of the final design, for example as background of the embroidery. When you set an image as screenprinting, it will be showed, along with your embroidery objects, in the simulation window.

When you enable the Simulation View, the Screen Printing figures will be visible on the workspace.

You can turn an auxiliary or cutter image, to a Screen Printing one just by selecting the desired image and clicking on the Screen Printing button. The converted image will no longer appear in the original tab, but will be now shown in the Screen Printing tab.

All images no matter what kind they are will appear in the ALL tab.

Chapter 7

Art to Stitch

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In this chapter you will find details on one of the methods that *Stitch Era* offers to create embroideries in an automatic way starting from image and vectors you created or have imported in the main work area.

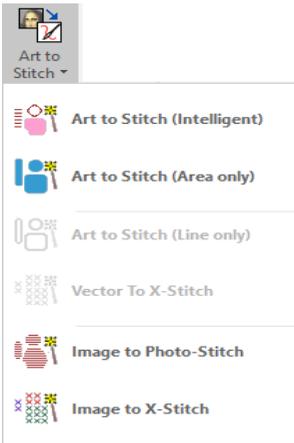
Art to Stitch



Art to Stitch (A2S) is a tool that allows you to automatically convert your images (bitmaps) and vectors to embroidery designs. *Stitch Era* recognizes the image geometry, and applies the most adequate stitch type for each shape.

Afterwards, the system will let you modify the stitches and fills that *Stitch Era* produced in an automatic way.

A2S on Bitmap Images



You have four options to perform an Art to Stitch (A2S) over a bitmap image.

Art to Stitch (Intelligent): Recognizes shapes that could be better filled up with Paths instead of Areas, and uses the first ones when an acceptable conversion is possible.

Art to Stitch (Area Only): It only uses Areas to make the conversions.

Image to Photo-Stitch: performs an automatic trace of the image captured and generates Photo stitches. Explained later on this chapter.

Image to X-Stitch: creates a Cross Stitch - based design, according to the contours formed by the color count of the picture. Explained later on this chapter.

Suggestions for the correct use of Art to Stitch

The image attributes are the key to obtaining the expected result. These are some suggestions to get optimal results when using A2S:

- The system will recognize areas with pure colors only. Avoid color gradation and mixing colors in the images.

- The automatic vectorization works perfectly with borders of clearly defined colors. Use images with well-defined shapes and borders.
- Avoid small areas.
- Image Resolution is very important too. Use values around 250 pixels per inch (100 pixels per centimeter).

Note: If you do not consider these points, the application might show an error. In this case, correct the image and try again.

A2S adjustments

Once you have opened an image or vector and selected the option A2S, a box will appear with all configuration parameters you need to make the conversion.

If you use A2S on a bitmap image, the box will have four settings tabs: Basic, Color, Needle and Stitch. If you use A2S on a vector the box will not show the color setting tab.

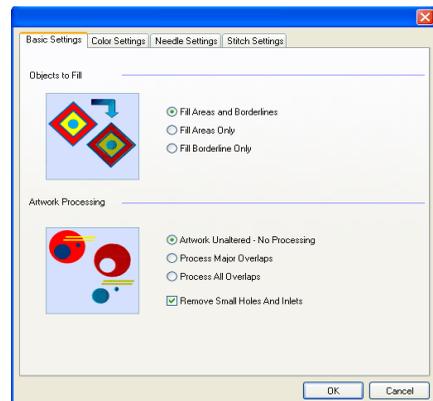


Below is a description of all the settings of the corresponding window:

Basic Setting

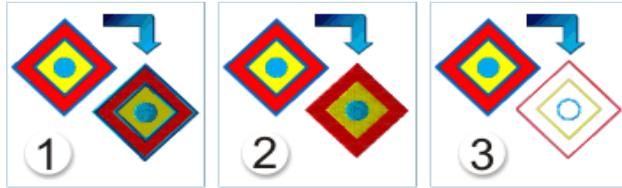
On this tab you have to choose the criterion or strategy for the automatic sorting of the sections. There are seven check box options that will be enabled according to the image or vector type.

Next you will find the features of each item. The examples shown here are the same as the ones that will appear in the Settings tab.



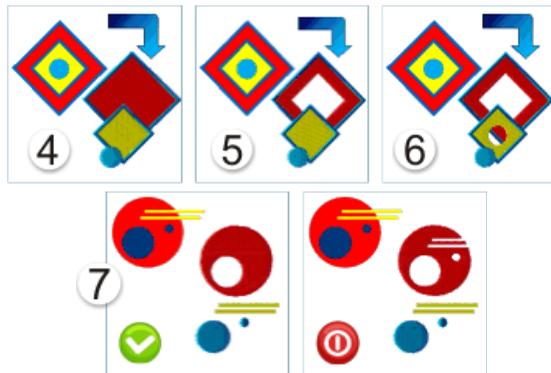
Object to fill

1. Fill Areas and Borderlines
2. Fill Areas Only
3. Fill Borderline Only



Artwork Processing

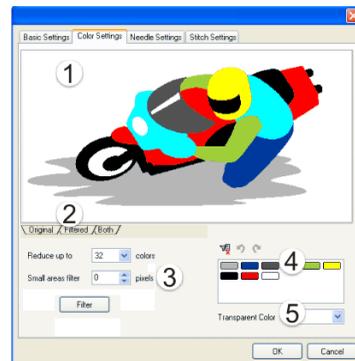
4. Artwork Unaltered - No processing
5. Process Major Overlaps
6. Process All Overlaps
7. Remove Small Holes And Inlets

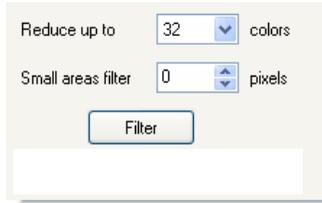


Color Processing

In this you will find the following elements:

1. **Preview box:** from where you can see the result(s) obtained.
2. **Previews tabs:** shows the Original image, the Filtered and both arts.
3. **Reduce up to:** allows you to reduce the number of colors in the image, this is the first filter you should control, reducing the colors without deforming the image.





Small areas filter: eliminates the noise in the image, this noise is composed by small pixels dissociate color, called "holes". As you increase this control, the application will eliminate the biggest holes.

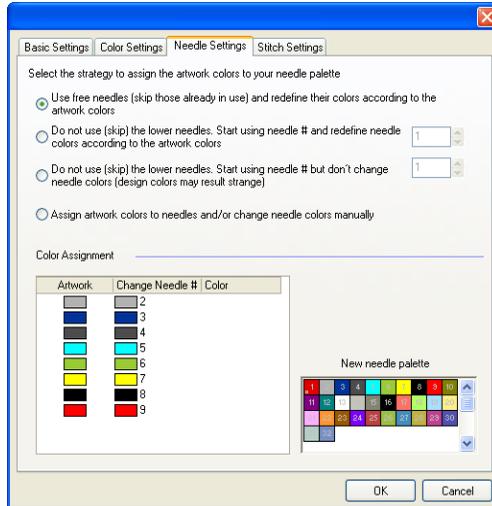
4. **Color List:** From the colors view select those tones that are similar, and click on the Combine button for them to merge. It is convenient to reduce the number of colors of the image when possible; in this way the application will be able to distinguish easily the changes in tone. To select two or more colors in the color view, press Ctrl and click on the color to merge, then press the Combine button. If the result is not the expected one and you want to improve it, use the undo combination buttons.
5. **Transparent Color:** The drop down list shows you the colors that form the image. This function has been specially thought to avoid the system to apply a stitch section on the background. You must choose the background color to make it transparent. Remember to carry on this procedure properly; the image background must have only one color.

Needle settings

From this tab you can select the strategy to assign the artwork colors to your needle palette. Next you have the four possible check box strategies to apply:

1. Use free needles (skip those already in use) and redefine their colors according to the artwork colors.
2. Do not use (skip) the lowers needles. Start using needle # and redefine needle colors according to the artwork colors. Using this strategy a new needle palette will show you at bottom of the box.
3. Do not use (skip) the lower needles. Start using needle # but don't change needle colors (design colors may result strange).
4. Assign artwork colors to needles and/or change needle colors manually.

From the **Color Assignment** box you can manually change the color needles selecting the desired one.



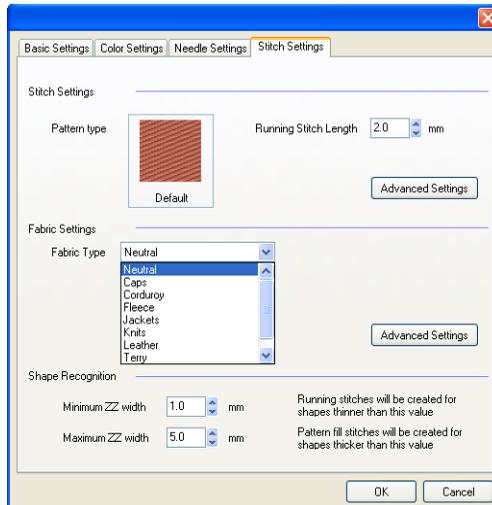
Stitch Setting

Stitch Setting: from here you choose the pattern type by clicking on the pattern image and determinate the running stitch length. Besides, from advance settings button you can modify the fill mode, underlay and compensation options.

Fabric Settings: Drop down and choose the fabric type for the design. From advance settings button you access the material editor.

Shape Recognition: This paragraph defines the minimum and maximum limit for the Zig-Zag stitches, being its options:

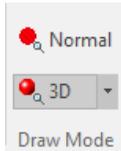
- **Minimum ZZ width:** Running Stitches will be created for shapes thinner than this value.
- **Maximum ZZ width:** Pattern fill stitches will be created for shapes thicker than this value.



When pressing the OK button, the automatic trace will create the embroidery design according to the images geometric shape.



If you activate the function hide auxiliar objects, you will be able to appreciate the result in bigger detail, without having the image.



You can also press the Simulation View button (F7) to hide the background image and show the simulated stitches.

A2S on Vector Images



You may have several options available to perform an Art to Stitch (A2S) over a vector image, depending on how the vector image is made of:

Art to Stitch (Intelligent): Recognizes shapes that could be better filled up with Paths instead of Areas, and uses the first ones when an acceptable conversion is possible.

Art to Stitch (Area Only): It only uses Areas to make the conversions.

Art to Stitch (Line Only): For figures made out only of lines. Uses Running Stitch Paths to create the objects.

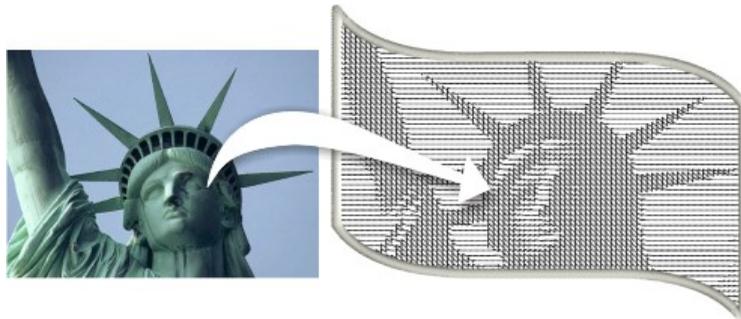
Vector To X-Stitch: Creates a Cross Stitch-based design. The operation is similar to Image To X-Stitch, explained later on this chapter.

Basically, all options work similarly as to the ones explained to A2S on Raster Images. Please read that information.

Image to Photo-Stitch



This operating mode performs an automatic trace of the image captured and generates Photo stitches, creating a design. In the following example only one needle was applied over the area starting from a vector predefined by *Stitch Era*.



Advantages offered by operating with this tool:

- Works with black and white images, gray scale and color images.
- Produces monochromatic and multi-color embroideries.
- Multiple photographic effects in each mode.
- Enables to choose controls and parameters: adjust quality and speed levels, contrast of black and other colors, resolution (spacing between tracking lines, width of cells and margins), compensations and small stitches filters, stitches' width and density, etc.
- To change adjustments in order to obtain other results, you must only change the properties of stitch creation and generate them again.

Considerations on the images to use

It is necessary that you consider the characteristics of the chosen image, as based on its particulars, (color count, definition, contrast, etc.) results will be the expected ones or not. Optimum images could be those that meet the following conditions:

- Images with big shade contrasts (for instance, a black and white image)

- Should not be less than 10 cm. and bigger than 16 cm. width.
- It is advisable to have objects or a specific element (for example, a dog, a soccer ball, etc.) in the foreground
- The foreground must be very well defined.
- Try with images with no background, as this will produce a blurred and undefined result (especially if it is a landscape, a dark background or similar).

Note: Select the image carefully. As the resulting embroidery is not an image, it will neither have the same resolution nor definition of the original image. Do not use landscape or background images as you will not achieve the desired result. Use foreground images always, otherwise, you will miss the small details.

Example step by step

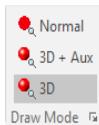
Once the image has been selected following the criteria previously considered, you must follow a series of steps, from the controls in the Options ribbon, to get Photo type stitches:



- 1- Select the digitizing method of applying a section area layout and with the desired format on the image imported (we recommend using clipart figures). You may use Manual (click by click), shapes, etc.
- 2- Choose the stitch mode, modifies separation, height and width of the cells.
- 3- Control object's Entry and Exit points, Stitch direction, holes, etc.
- 4- Add Trims and Lock Stitches.
- 5- Move the sliding knobs contrast and see the result. When you get the expected result, click on Continue.



If you activate the function hide auxiliar objects, you will be able to appreciate the result, without having the image.

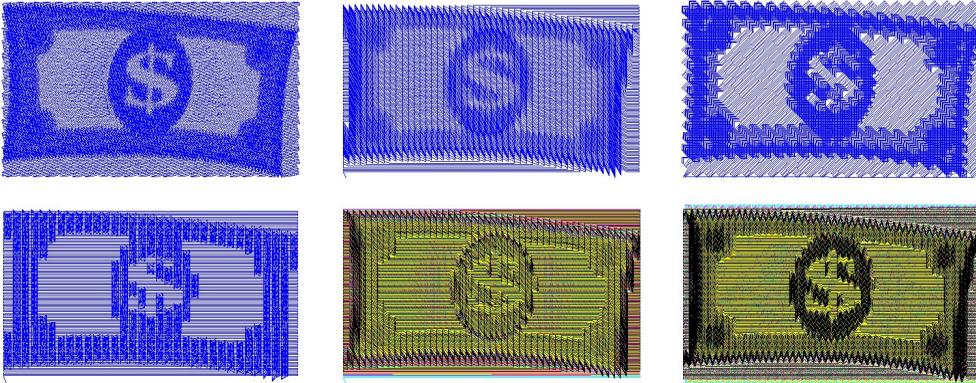
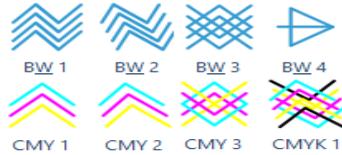


You can also press the Simulation View button (F7) to hide the background image and show the simulated stitches.

Note: Remember that the result obtained will depend on the properties assigned, and these are not same for all the images. Adjust parameters to the properties and perform several attempts until reaching the desired result.

Photo Stitches Features

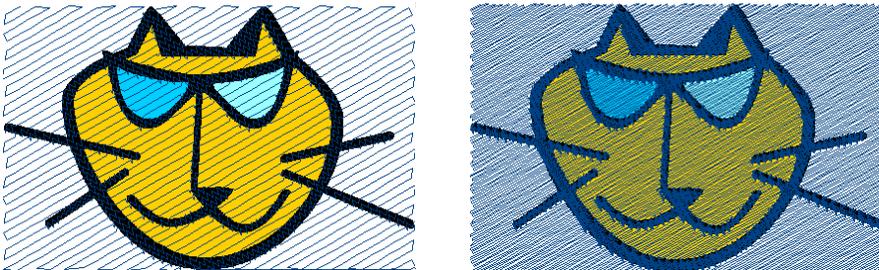
The chosen mode will determine the result of the creation of stitches on the selected image. The values of the remaining parameters are defined according to the option chosen in this item. In the lower figures observe the result of using different modes for a same design; they can use one or several needle colors.



Line Spacing

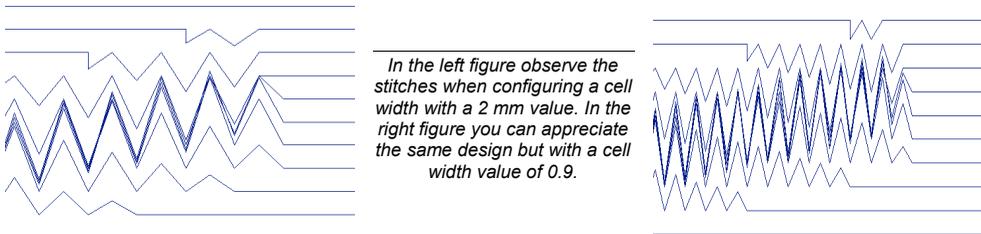
From the control define the stitches spacing during each sweeping (either Zig-Zag or running stitch type). This value makes the design density and the number of stitches to vary.

In the following figures you can appreciate a design created with a spacing of 2, and the same design after applying a 0.5 spacing.



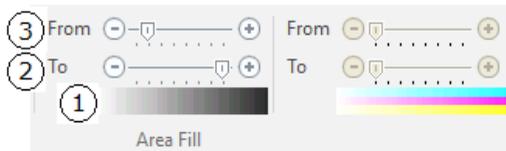
Cell width and height

Modify these values to control the size of the cells produced in each sweeping. To generate the stitches, the application divides the image surface in little cells, each cell corresponds to an area of the reference image and can be filled with Zig-Zag type stitches or running stitches, according to the color contrast in each part of the image. Increase or reduce these values according to the concentration of stitches you want to obtain: the smaller these parameters are the smaller cell width and bigger the design's number of stitches.



Contrast for black and color

This tool associates tones with stitch types, generating a sweeping in running stitches or Zig-Zag stitches in each sector of the photo. When generating the stitches, the application will relate the brightness of each pixel in the image with a length, a density and a stitch type.



From these options you can define the sensitivity the creation of stitches will have according to the different color contrasts of the image.

Next we will explain the controls and visualization elements of this box:

1. Gradient level visualization box, from maximum brightness to minimum brightness.
2. Relation slider control between types of stitches – brightness level.
3. Relation slider control between types of stitches – brightness level.

Image to Cross Stitch

This option automatically creates a Cross Stitch-based design, according to the contours formed by the color count of the picture.

Once you have applied this function, from the Stitch Editing ribbon you will have the possibility to modify the result obtained.

Remember that the images to be used from this mode should not be less than 16 cm wide.

Open an image on screen. From the Embroidery ribbon, open the Art to Stitch option and select Image to X-Stitch.

The Color and Needle setting window will appear for you to adjust your image. Once you have finished, press OK to close this window.

The Cross-Stitch ribbon will open.



The Cross Stitch Ribbon has: (1) Control panel of cells, (2) Control panel of Size, (3) Needle and Colors, (4) Generation button, (5) Edition tools (selection), (6) Clipboard tools (undo and redo), (7) Drawing toolbar, (8) Fill mode option, (9) View, (10) Accept and return to main window.

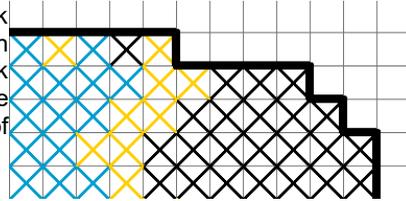
From the status bar you will be able to display design's information.



Press Generate button to view the stitches that represent the reference image. At this stage you will be able to edit them: delete stitches, insert them, change their color, etc. Once you have finished the operation, press the Return button so that the result is displayed in *Stitch Era's working area*.

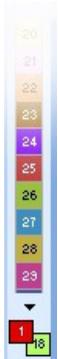
Operating mode

The working area contains boxes with a network pattern. From the different drawing tools you can work on them to apply either Cross stitches or back stitches. These back stitches insert stitches by the borderline of the boxes. Observe these two types of stitches in the figure.



Color selection

From the boxes up to the color bar you can visualize the colors defined as primary and secondary.



In order to establish the foreground color, click on the desired color box. This color will be used for lines, shape borders and text. It is represented by the upper square (i.e. it is “over” the square with the background color).

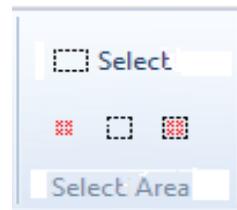
In order to establish the background color, right-click on the desired color, this will be used to fill the inside of the closed shapes. The background color replaces the image area that was either cut or moved. It is represented by the lower square (i.e. it is “under the square of the main color).

Drawing Tools

Use the different tools in the drawing bar to draw the finishing of the design. Such tools are explained next:



Selector: It is used to enclose part of a design within a rectangle, to copy it, move it or work on it.



Mode Selector: To work on all the design's elements (default operation mode), either on the stitches only or on the borderline only (back stitches).



Pen and Line: It is used to draw or create straight lines. Depending on the button you press, left or right, it will take the color of the foreground or background. In order to choose the thickness of the line, select any of the Line options from the Fill Mode box (A) (figure at the bottom).



Rectangle, Ellipse and Polygon: They are used to draw geometric lines. With the left button, you select the foreground color and with the right button you select the background. For the filled or empty option, select any of the alternatives presented in the Fill Mode box (B) (figure at the bottom).



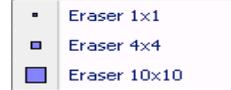
Font: Used to introduce a text. When activated, the window where you have to introduce the text, font, size, etc pops up. This is similar to any Windows application that allows the insertion of texts.



Fill with Color: It is used to refill a sector with stitches or make a selection with the same color. Depending whether you press the left or right button, it will take the color of the foreground or the background.



Eraser: From here, choose the size of the stitch eraser.

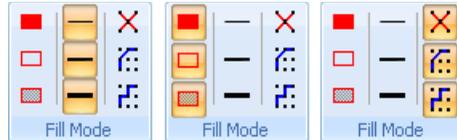


Fill with Eraser: It is used to delete an area with stitches or a selection of stitches with the same color.



Pick Color: It picks colors from a design; for this to happen you have to click on the stitches chosen. Clicking on the left mouse button you select the foreground color and clicking on the right mouse button, you select the foreground.

Stitches type: From the list choose the type of stitches; there are three options: Cross stitch (in red in the right figure) or borderline (back stitches) diagonal or stepped (in blue in the right figure), being these two last ones different ways to work on the borderline of the boxes.



(A)

(B)

The difference on the borderline between the two types of traces, is the way in which stitches behave when creating slant lines, that is diagonally or stepped.

Chapter 8

Basic Manual Digitizing

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Embroidery ribbon

This ribbon contains all the necessary tools for the creation of embroidery designs. Each tool allows to create a different type of embroidery sections; each of them has properties and characteristics of its own. The choice of the tool to be used depends on the characteristics of the figure to be created and the desired type of stitch.

All the tools described below will allow you to trace the basic shapes of the sections that, together with some basic properties (such as color, pattern type, etc.), define the way in which *Stitch Era* will generate the stitches.

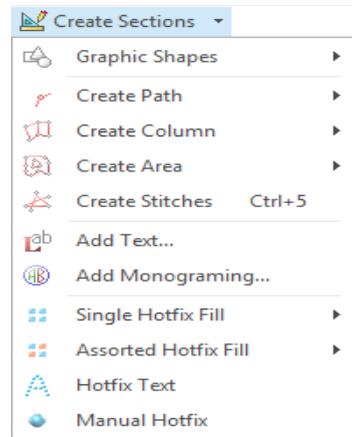
Creating sections

In general, the creation tools have similar (not the same) characteristics between them. However, each creation tool has some peculiarities.

For example: the only case in which you can create open figures is if you use the Path tool, on the other hand, in the case of Column type sections, you should always insert pairs of nodes to create the section.

You have different ways to build sections...

- 1) From the *Create Sections* button, in the auxiliary toolbar (right image);
- 2) From the *Smart Tool*, also in the auxiliary toolbar;
- 3) From the *Insert Embroidery Objects* group, in the *Embroidery* ribbon, through a series of drop down menus (below image);



Here you will find the creation tools available in the application: Paths, Columns, Areas, Stitches, Lettering and Monogramming.



Clicking on one of the creation modes will drop down its menu, for you to choose the type of stitch desired for the section. Then define the section's geometry in the working area. This working method is known as *manual trace* method.



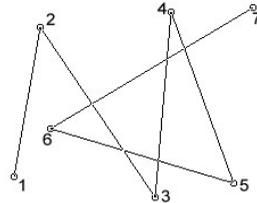
Stitches

Elements:

Needle mark points (from 1 to 7 in right figure)

Usage:

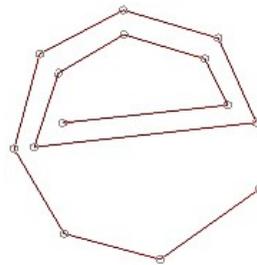
Manual stitch creation. Each node represents a needle mark. This creation tool is only used in those cases where it is necessary to insert stitches manually.



Description:

It is a sequence of nodes that form a section. Each node has its corresponding stitch.

To insert stitches manually, first click in the *Create Stitch* button in the *Embroidery* ribbon > *Insert Embroidery Objects* group. Then, make the stitches in the area of the design by clicking each place you want to have a stitch. Once you have finished the job with this tool, press the Enter key or click on Accept / OK from the context menu. When you select a stitch from the *Stitch Edition* mode you will be able to access the Move, Insert and Delete Stitch commands.



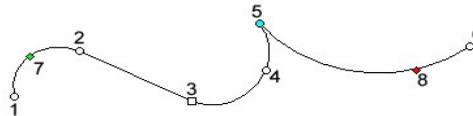
Paths

Elements:

Main reference (nodes from 1 to 6)

Entry point (7)

Exit point (8)



Usage:

The creation of open or close sections starting from the tracing of a linear sequence of nodes that serves as reference. Can be made out of straight and/or curved shapes.

Description:

A Path is a continuous sequence of nodes in line. To create a Path type section, click on the Path button in the *Embroidery* ribbon > *Insert Embroidery Objects* group, and select one of the available fill types.

Then create the nodes that will be the main reference of the Path. You can establish the entry and exit points, if you want. Remember that *Stitch Era* automatically defines the first node as entry point and the last as exit point, if you forget to input those points.

**Areas****Elements:**

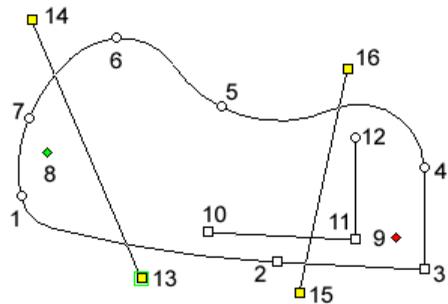
Main reference (nodes from 1 to 7)

Entry point (8)

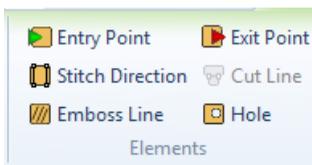
Exit point (9)

Split lines (10 to 12)

Several direction lines (13-14 and 15-16), although that for some geometric shapes or for certain types of stitches the application will only recognize the first direction created or none of them.

**Usage:**

The creation of a sequence of nodes that, laid out in a line, form a close figure, thus defining the geometry of the section. This creation tool allows you to capture close areas of any shape and appearance, without the limitations and restrictions that the Column type sections present.

Description:

To capture an Area type section you must enter the outline nodes (or main reference) and confirm the operation. After defining the section shape, you have the possibility of entering both the entry and exit points and other elements (directions, split lines, holes) from the *Area-Body* ribbon > *Elements* group or from the *context menu*. If you do not do so, *Stitch Era* applies automatically a direction; an entry point and an exit point.

So Areas are sections that are built by placing nodes in sequence (like a path) and closing at the end. They can have multiple direction lines or several split lines and holes; *Stitch Era* will automatically find the best way to fill it completely. If the section has one or more holes, only the first direction created will be active.

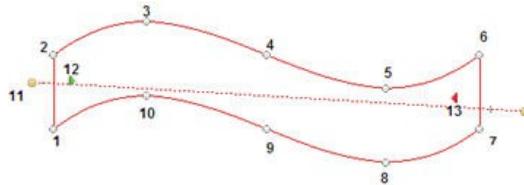
There are three different types of areas: uniform, turning and flexible. The basic difference among them has to do with the number of stitch directions allowed and the type of nodes (straight or curve) that form them.

Uniform Areas



The main feature is that this type of section needs only one straight direction to guide the same way all the filling stitches.

- Main Reference (nodes from 1 al 10)
- Entry Point (12)
- Exit Point (13)
- Direction line (11)



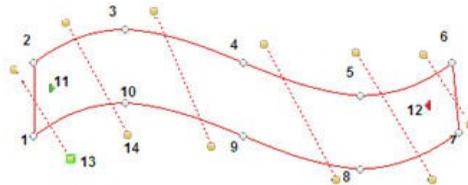
The uniform areas support emboss lines, cut lines and holes.

Turning Areas



The main feature is that this section requires at least two directions to turn progressive orientation of the stitches

- Main reference (nodes from 1 to 10)
- Entry Point (11)
- Exit Point (12)
- Direction lines (13, 14, etc...)



The turning areas supports emboss lines, cut lines and holes.

Flexible Areas



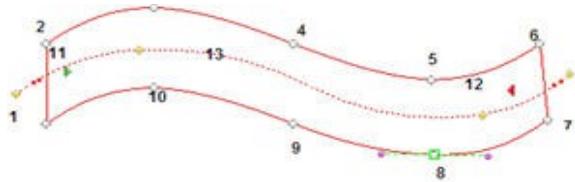
The main feature is that this section allows you to set the directions accompanying the figure's shape, so it addresses the curves that guide the stitches along the shape.

Main Reference (nodes from 1 to 10)

Entry Point (11)

Exit Point (12)

Direction along the figure (13).



The flexible areas support holes



Columns

Elements:

Main reference (vectors from 1 to 8)

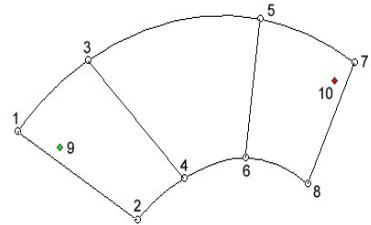
Entry point (9)

Exit point (10)

Split lines

Usage:

The creation of sections through the tracing of pairs of nodes that act in a combined way to define the section. A section of this type is formed by at least two node pairs.

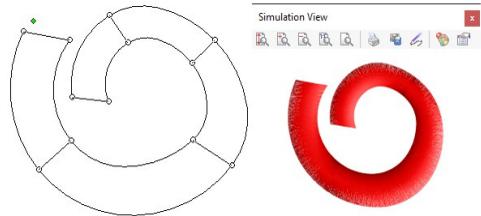


Description:

In a Column type section, the main reference is formed by guides. These are defined by sequenced pair of nodes, which establish directions within the column.

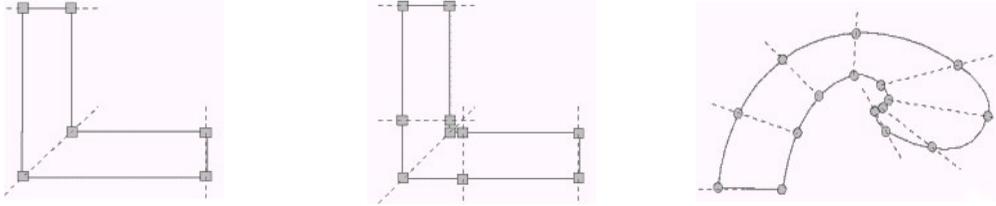
These guides define both the section's geometry and the direction of the fill stitches. In only one step you define graphically the shape of the section and the direction of the stitches.

Once you have defined the section shape, you have the possibility to enter the entry and exit points; in case you do not do so *Stitch Era* will apply them automatically.



Direction lines in column sections

In the following diagram you can observe three examples of Column type sections. We have highlighted these directions for a better understanding.



Section elements

Before getting deeper into the section creation arena, we will study some of the basics of design production with *Stitch Era*.

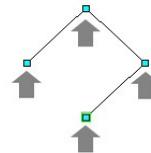
Nodes

Section main reference

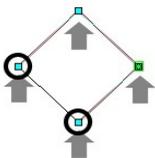
In all the tracing methods we try to establish section references that form the section's figure. This is known as main reference of the section, and it is formed by a sequence of points called nodes. The nodes are points which are connected by a line that delimits the shape of the section.

Open or close figures

If the first node does not join with the last node of the section, we are talking about an open figure. But, if these two nodes are connected between themselves, you are in presence of a close figure. In the right figure, the arrows indicate each of the section's nodes. Please note that the nodes are connected between themselves by a line. This line establishes the geometric shape of the section.



The figure shown is an open section which corresponds to a Path type section.



In the left figure see the same section, but note that now the start and end nodes are joint. This section is close. The close figures can be Path, Column or Area type sections.



Use the Close function for the application to automatically close an open section



Do the opposite in order to open a Path type section already closed.

To apply these commands, first edit the section by pressing “Select Object” or F11 and click on the section so that it becomes selected (surrounded by a dotted rectangle). Now step on any of the nodes, open the context menu (mouse right click) and click on the Open or Close function.

Curve types: Circular arcs or Bezier

At the moment of manual tracing you can specify two working modes. According to which one you choose, the nodes will behave differently. Basically, we can say that with the working mode with curves known as Circular Arcs, it will be easier for you to capture geometric shapes, although it generally requires the insertion of more nodes. Being this the application’s working method by default; we will adopt this creation method for the examples shown throughout this manual.

Though working mode with Bezier curves requires a better skill when capturing shapes, it allows you to reduce the number of nodes that form the geometry of a section, therefore, it is the recommended method for those users who normally design with vector-based applications that use this type of curves (for example, CorelDraw®).

You can modify the default type of curve from Bezier to Circle Arcs or viceversa from the *Home* ribbon > *System* group > *System Settings* and go to Application > Create & Edit > General > Curves type item.

Example: Digitizing using circular arc curves

Before making any capture, you have to decide which creation tool is convenient for you to produce each of the sections. Choose the creation tool, (Path, Column or Area) that better adjusts to the result you want to achieve. Once you have done this, you must only create the nodes in the design area, forming the figure that you want for the section.

In the following model you will see, step by step, the basic tips to make a circular section, with the Path with Running Stitch creation tool.



For this example, the Curved and Normal modes must be activated.

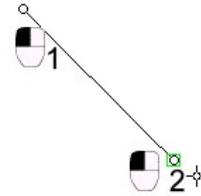
Curved node is highlighted and Corner node is not.

If these properties are in a mode different to the proposed, you will not be able to create circular shapes unless you press the Shift key. Observe the state of the corresponding buttons in the toolbar. If it is necessary, modify them by clicking on them. While you insert nodes, Stitch Era will connect them with straight or curved lines, according to the modes defined.

You will form the figure with the color selected in the color bar. If you have not defined any other color, it will create sections in red by default.

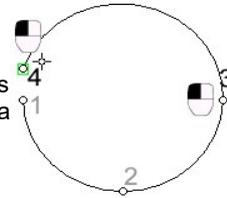
1) Go to the *Embroidery* ribbon > *Insert Embroidery Object* group and select *Path*, choose the Running stitch fill type mode.

2) Click in the design area (point 1 in the left figure). In this way you create the first node of the section. When making a second click in another place of the design area (point 2) you create another node and a line will connect both nodes.

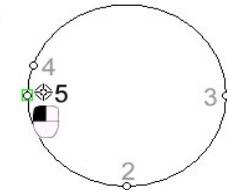


3) Continue inserting nodes (3 and 4).

4) Approach the mouse pointer to the first node created. Note that this changes its shape indicating you that the figure will close (if you make a left mouse click).



5) Produce a closed figure by clicking near the first node created (5 in the right figure).



Once the figure has been defined, you can right click to open the context menu and choose Accept / OK, or just press the ENTER key.

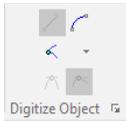


When defining the geometric figure of the section (that is, when inserting the nodes) you have the possibility of deleting the last node generated, by pressing the BackStep key. If you press that key several times, you will see that the inserted nodes disappear one by one, according to their creation order.

As you insert the necessary nodes to define the section's geometry (that is, before Confirming the new section), it is probable that you may want to modify the position of the nodes entered, thus, remember the function of the BackStep key. Another way is to edit the section and modify the location of the desired node. We will explain how to do this later.

Operating with nodes

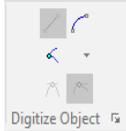
The following properties determine the trajectory of the line that goes through the node, either in the Bezier curves and the Circular Arcs. The type of nodes that form a section's figure define its geometric shape.



Straight Type:
Represented by square nodes.



Curve Type:
Represented by circular nodes.



Normal Type:
Represented by white nodes.



Corner Type:
Represented by cyan nodes.

Toggle between Straight and Curved

In order to toggle between the Straight or Curved mode in the middle of the creation of a section you can press the Shift key before clicking to create a node.

For example, if Straight mode is activated, while you keep the Shift key depressed the mode will be Curved.

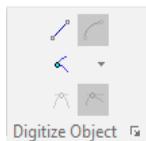
You can also modify the mode of a section already created. To do so, select one or more nodes and toggle between straight or curved nodes from the buttons in the ribbon, this will modify the state of the node.

Examples:

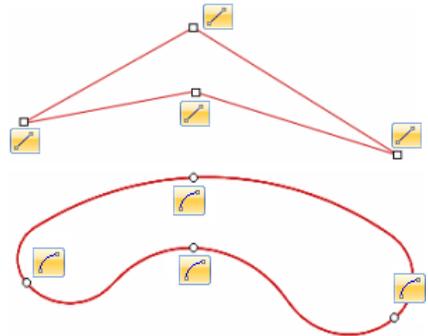
You can make sections combining different types of nodes. In the following figures, the variation between sections is given by the configuration of their node's properties (straight or curved).



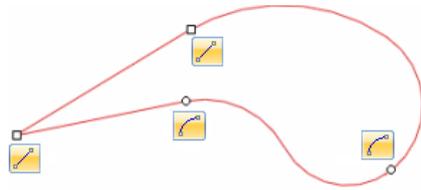
Section formed by Straight Nodes



Section formed by Curved Nodes



Section formed by the combination of Curved and Straight Nodes



Normal / Corner property

When you define a node as Corner, you not only determine the geometry of the figure (the node should form a border with acute angles), but also apply stitches specially prepared to fill that section. These stitches will adjust correctly to the corner's shapes.

So this property not only determines the geometric shape of the trace created, but also determines the way in which the filling of the section will be made. Remember this feature always, since it is unnecessary to have in mind that the Normal /Corner property when working with Bezier curves (considering that in this capture method you can easily generate the shape of a corner without toggling any command), but the application will have difficulties when trying to fill the stitches of such section area.

Toggling between Normal and Corner

You can toggle between the Normal / Corner modes while you define the shape of the section. Use the Ctrl key to do so.

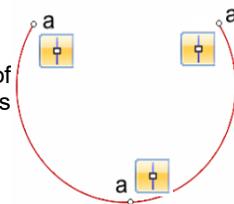
For example, if the Normal mode is activated, while you keep the Ctrl key pressed, the mode will be Corner.

Example:

In the following section we will use a Path with *curved* nodes. We will modify the mode of one of its nodes to appreciate the result.



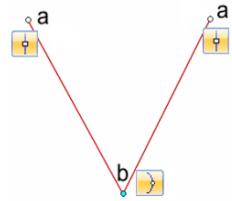
Section formed by Normal Nodes (a). In these types of nodes, the Corner Node button on the toolbar appears deactivated.





The right figure shows a section formed by the combination of Normal Nodes (a) and a Corner type Node (b).

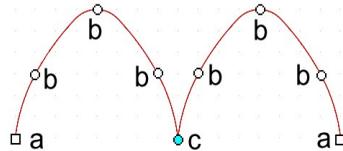
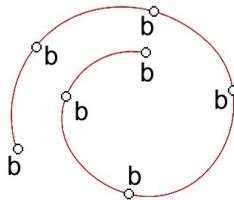
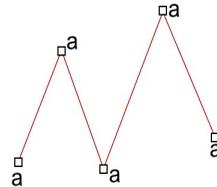
In the corner node (b), the corresponding button on the toolbar appears activated.



Observe that the following figures have different node types (a, b and c).

These correspond to:

- a) Straight / Normal
- b) Curves / Normal
- c) Curves / Corner

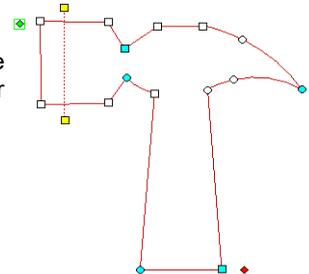


To create the examples above, we used a Path with Running Stitch fill.

Nodes colors

Through the color assigned to the different types of nodes, *Stitch Era* will help you visualize the elements of the design during all the working stages.

- Nodes that belong to the section's outlines are white in the case of normal nodes or light blue for the corner nodes, whether curved or straight.
- Curved nodes: circular figures.
- Straight nodes: square figures.
- Cut lines: square figures.



Other elements are also represented with highlighted points, Such as:

- The direction lines nodes are yellow.
- The entry point is a green diamond.

- The exit point is a red diamond.
- The cut lines nodes are blue.

Other node properties

From the context menu, the toolbar or the left panel, you have more configuration and node edition options, by clicking on the right mouse button while having at least one node selected.

If you have selected only one node when activating a function, this will only be applied to that node. However, you may also activate a function on the group of nodes previously selected. For the corner type nodes placed in the main outlines, you have three modes available. The Corner Swept option is active by default. You can configure different corner types, mainly Zigzag Paths or Columns, E stitch and some patterns. Remember that if you are not working over a corner, these modes are disabled. Observe the list below, where you will find the available functions when selecting nodes. Have in mind that if you have several nodes marked; it may be possible that some of these options do not appear.



Insert nodes

This function allows you to insert a node between the one selected and the previous one. The new node is located halfway between them and has the same features of the selected one. This function is available when you have selected only one node.



Add nodes

This command is used to add several nodes to a reference. The added nodes will appear after the selected node and are captured by the mouse pointer (i.e.: they move with it) until you click to fix their position.



Delete nodes

This operation deletes the selected nodes from the reference. You can also delete node pressing the Delete key, thus achieving the same result over the selected nodes.



Rotate nodes

Allows you to rotate the figure from the selected node. After selecting this command, place the mouse pointer over the node, click and rotate the object.

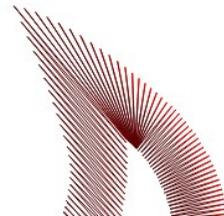


Corners > Corner Swept



This is the default option for grouping the stitches in the corners.

On the right figure you can observe that the stitches type (zigzag in this case) stretch to form the outline, producing some parts with high density stitches.

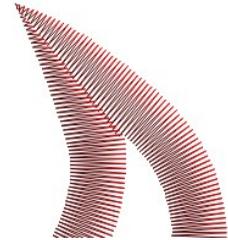


Corners > Corner Mitered



In this mode, the stitches type of the section is split in the vertex of the corner.

In the right figure, you can observe that the concentration of stitches shown in the previous figure has disappeared.



Corners > Corner Capped

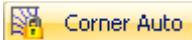


In this type of corners, stitches tend to be perpendicular to the corner (right figure).

The stitch density in this kind of corner is not very high either.



Corners > Automatic Corner



Activate this option whenever you want the application to set the corner type assigned to a node as default.

Open and Close



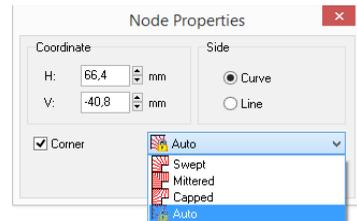
These options allow you to modify the selected section, opening or closing a path object.



Node Properties



Opens the Node Properties dialog box. This option is very useful to define certain features such as the exact node coordinates, whether it is straight or curve; and the corner model if it is this type of node.

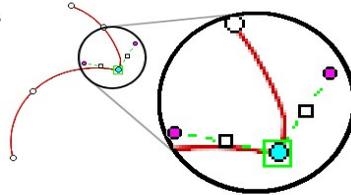


When you are editing nodes of a Split Line or Variable Density Points, the Edit, Delete, Insert and Add commands may show slightly different names, however, its operation mode is identical to the one described for the outline nodes.

Using the node handles

Both for the creation (whether with Bezier or Circular Arcs curves) and edition of outlines and sections of references, you have shape control elements known as handles.

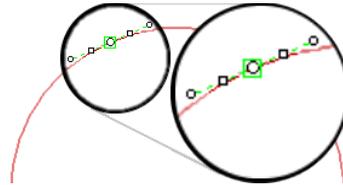
The handles are little control points associated to each node that allow you to define the angle slant of the line that passes through them.



A node can have one, two or no handles, depending on its properties (Straight / Curved and Normal / Corner).

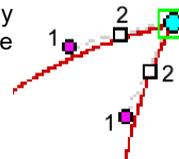
Handles in Circular Arcs curves: Normal and Curved Nodes

These nodes have two symmetric and aligned handles. If you drag one of them, the other one will move symmetrically. When moving any of the handles, the other one also moves, accompanying its movements. This allows you to adjust the geometry to both sides keeping the smoothness of the curvature.



Handles in Circular Arcs curves: Corner and Curved Nodes

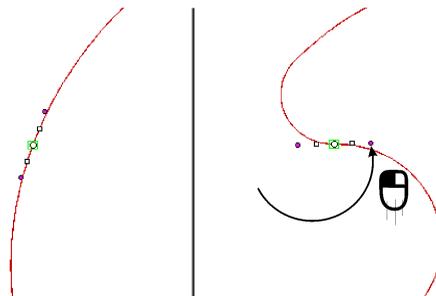
Nodes defined as corner have handles that are not aligned, that is, they are not 180° apart from each other. Please note in the right figure that the angle formed by both handles is acute.



Example of handle edition

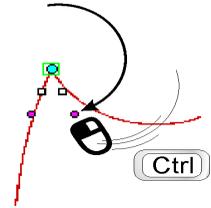
In a normal node (with two handles) both keep aligned and of a *fixed* length maintaining the smoothness of the curvature.

Please note the result of dragging a handle in the far right figure.



However, to modify only one of the handles, drag it while keeping the Ctrl key pressed. Note that only this handle changes direction and the node turns into Corner mode (next figure).

You can define the direction of the handles when creating the outlines of the section. If at the moment of clicking to locate a node you drag the mouse (without releasing its left button), a handle moves in the direction of the dragging. Its angle is set when releasing the button.



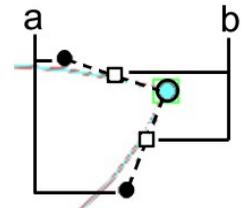
States of handles in Circular Arcs

Handles have two states:

- **Free:** When the user did not change the angle of the handle. The end's control point appears in white.
- **Fixed:** The user has changed the natural angle of the handle and the segment now responds to this change. The end's control point appears in violet.

Each handle has a control point in the end. On the left figure these are the two points marked as (a), and a control point in the middle of the handle, that corresponds to the two points marked as (b).

The end point (a) can be dragged to modify the direction of the handle. The point located in the middle (b) allows you to re-establish the handle to its original situation.

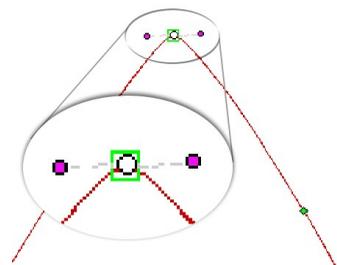


Each time you drag a handle, it turns to a fixed state. If you click on the control located at the middle of the segment, the handle re-establishes, turning to its free state.

Handles in Bezier curves

When you work in this mode, you have the possibility to freely move the handles (both in the edition of a section and at the same time of the trace), making the geometry of the figure curve according to the direction set to the handles.

In this way, it is easy to define the shape of the section at the same time you create the outline. For this to happen, drag the mouse without releasing its left button at the same time you click to place a node, the slant and length of the handle will be fixed when releasing the button.



In the Bezier curves the handles are modified, enlarged and rotated around their node. Nodes can be symmetric (default mode) or asymmetric.

Types of handles in Bezier nodes

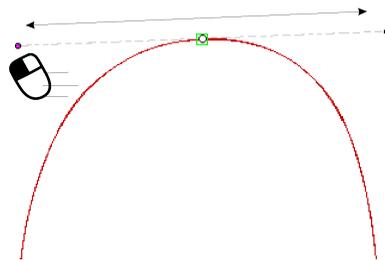
In the Bezier mode the handles behave on the basis of two guidelines. As an example, in the next figures we will apply both types of handles to the section's upper node to observe the results.

Symmetric Curves:



This is the default mode of the handles, both are always aligned.

It is possible to modify both the length of the handles and the slant; however, the two handles will always keep the same length and opposite direction. On the right figure, note that when varying the length of one handle the other will also vary, taking the same length but opposite direction. Both handles are always 180°.

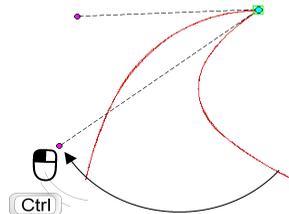


Asymmetric Curves:

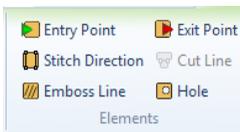


This mode allows you to change both the alignment and the length of one of the handles, without modifying the length or slant of the other one. For this, select it and drag it while you keep the Ctrl key pressed.

Note in the right figure that only that handle changes the direction. According to the angle the two handles acquire, the node may automatically take the corner mode.



Basic Elements



Next you will find information on several elements that form part of the sections. Generally you will be able to access them from the *Elements* group when creating the section. Some of them will be available from the *context menu*.

Deleting components of the section

To edit the shape or position of any of these elements place the mouse pointer near one of its nodes or points. When the mouse arrow is over it you will see that a small icon appears at the side of the pointer; that will indicate that an element will be selected on the first mouse click.

If you want to delete an element, select it and activate the Delete Element function from the context menu.

Directions

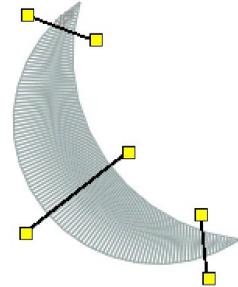


The direction is the element that indicates the orientation of the stitches that fill the section.

From the Main working window, the direction corresponds to a line that has yellow square points on both ends.

The stitches that form the section are applied following the orientation set by the direction line(s). If the section has only one direction, stitches are generated parallel to it. If the section has several directions, the stitches will adapt to all of them, covering the entire section.

In the Path type sections, the directions are not enabled. But, in the Column type sections directions are determined at the time of creating its geometric figure. On the other hand, an Area can generally support one or more directions.



It is possible to insert these elements at the same time you create the section, after tracing the shape of the section and before confirming its creation. Select Stitch Direction from the ribbon, click a couple of times to define the direction's location, then confirm the creation of the section from the context menu.

Entry and Exit points



The first section stitch is generated from a reference called entry point, since this element determines where in the section the thread will come in from.



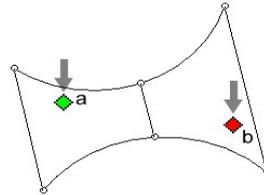
In the same way, the exit point defines the place by which the thread comes out of the section; the stitches end in the closest place to the exit point.

The entry point is represented with a green diamond (a), while the exit point with a red one (b). While you are creating a section you can insert these elements; to do this, trace the shape of the section and before confirming the creation select Entry Point from the context menu or the ribbon, and click where you wish to place this reference. Follow the same steps with the exit point and then confirm the creation of the section.

If they are not defined manually at the time of creating sections, such elements are defined by the application, generally at the points closer to the ends of the sections. This entry and exit points are known as “defined by the application”.

On the example (see the figure next), you can see the representations of these elements in the shape of small diamonds.

Every time you generate a design, the  symbol will appear somewhere in it. Please note that all the designs have this mark. That symbol indicates the exact place where the last stitch for that design will be made. It always appears in the last section of the design sequence and is generally close to the exit point.



You can relocate the place of the entry and exit points of the sections. The possibilities are:

By User

To assign the location of those points manually. From the Elements group, click on the one you want to relocate. It will be surrounded on the graphic view. Now drag the entry and/or exit points to the new location. To avoid dragging a node instead of the entry/exit points, keep the Alt key depressed while dragging.

Closest Point (Optimized by the system)

The system connects the sections by the closest point. When the property indicates Optimized in the Connections & Functions tab of the Object Inspector-List view, the application assesses which is the most convenient position in order to achieve a close connection between the consecutive sections. If you are using the Object Inspector in detailed View, it will appear as Closest Point.

Holes



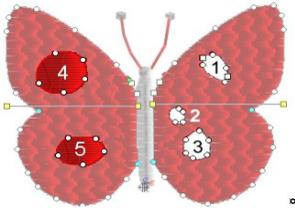
It is a closed path that can be included inside the main reference of an Area type sections.

According to the properties that are assigned, the hole can be:

1. **Empty:** there is no thread in it.
2. **Zig-Zag type:** has a Zig-Zag fill, covering the entire surface.
3. **Pattern:** A pattern is produced in the hole, and it can be different to the one applied to the main reference.

The hole can be empty or can be filled with another pattern, when this option is available. When you insert the first hole in a section with several directions, the first direction created will be the only one active.

You can insert all the holes you want. The nodes that form the outline of the hole, and the ones belonging to the main reference have the same characteristics (you can define curve or straight and normal or corner).

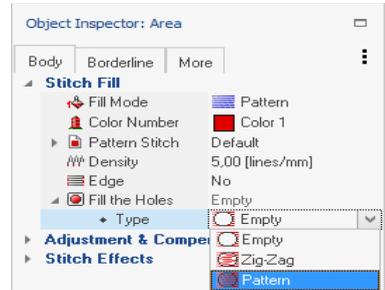


In the design shown on the left figure, observe the section that forms the butterfly's right wing. It has three empty holes (marked as 1, 2 and 3), while the section of the left wing has two holes but filled with a pattern (4 and 5).

To insert holes in a section, select the Hole command from the context menu or the ribbon, and click repeatedly inside the section, where you want to place the hole.

To assign a fill to the selected hole, choose one of the available options in the Object Inspector, in the "Fill the Holes" property.

Have in mind the following considerations:



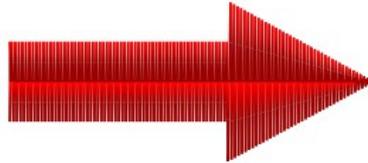
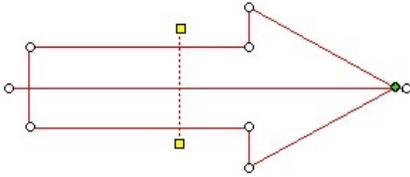
- When finishing the insertion of a hole, the first and last node automatically joins, closing it.
- To define the properties of the hole's nodes, activate the straight or curved modes using the Shift key, or predetermining the property from the ribbon buttons. You can also toggle between the Normal and Corner modes, as if the nodes were from the main reference.

Advanced elements

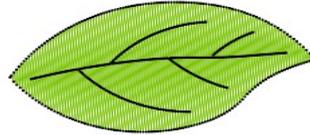
Emboss Lines



They produce new needle marks (needle penetrations) inside the main reference fill, following the line/s you create. Observe in the figures next that the marks produced by the emboss line, (highlighted in the first figure) make like a split effect in the embroidery, interrupting the continuity of the fill.



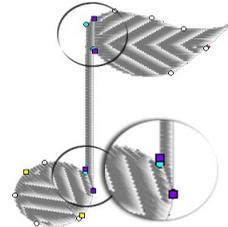
The emboss line nodes have the same characteristics (straight / curve, normal / corner) than the main reference nodes. You can insert all the emboss lines you want. To do this, activate the Emboss line command after tracing the section's figure, and then click several times inside the main reference of the section. Or add them later through the section's edition.



Cut Lines

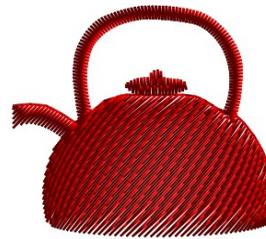
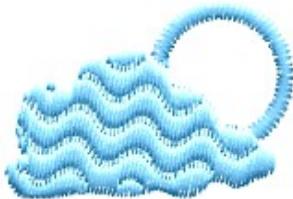
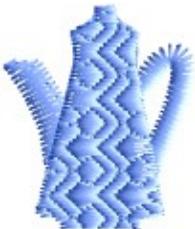


Is a line that goes through the main reference dividing the section in two, thus creating a subsection within a same section. It is represented with two blue dots. The area limited by the specified outline (and the holes, if necessary) will be filled with the type of stitches the application judges more appropriate for its geometrical shape, choosing among Zig-Zag and pattern type stitches.



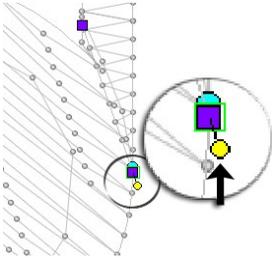
Auto-Fill type sections automatically insert cut lines according to the geometry of the main reference; this is the case of the section figure. Have in mind that you can insert more than one cut line per section.

Observe in the following figures three examples of Auto Fill sections.



In order to apply a cut line when creating a section, trace the main reference, from the ribbon, select Cut Line and insert, inside the section area, a pair of nodes for each cut line you want to create. To finish, open the context menu and select Accept / OK. You can also enable the Cut Line by pressing Ctrl + R.

Cut Line and Direction

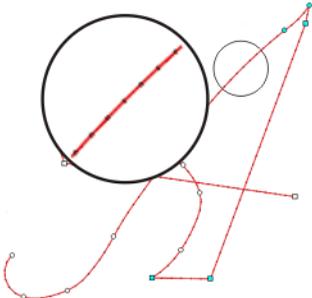


A cut line can, also, influence the orientation of stitches as if they were direction lines. For this to happen, edit the cut line by clicking on one of its blue nodes. A round yellow dot appears at the side of the node (shown in the left figure); when clicking on it you will modify the cut line attribute, also turning it into a direction line. From that time, the stitches of the subsection will be oriented according to the cut line direction. You can specify a cut line to also be a direction line from the very beginning of the section. To do so, create cut lines but pressing the Shift key.

Basic Digitizing and Section Fill

Paths

Running Stitch

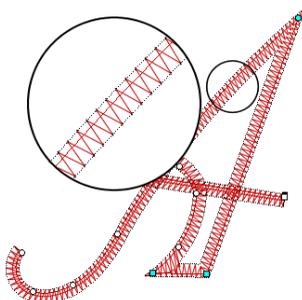


Main properties:

Color, running stitch type length, stitches repetitions, short or long backsteps, advanced step, thickness, adjustment of stitches in between references, etc.

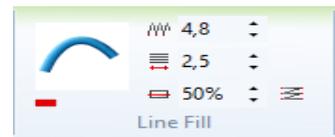


Zig-Zag

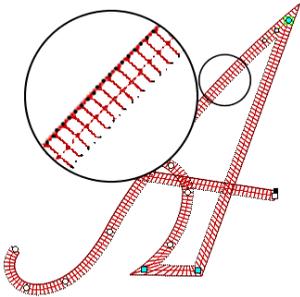


Main properties:

Color, stitches density, column width and offset, random effect, centered, regular type or Z type, underlay stitches, compensation stitches, short stitches, split stitch, locks, stitch effects, etc.

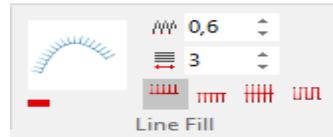


E Stitch



Main properties:

Color, type, stitch density, column width and offset, centered on the artwork, jagged edge, random edges, pull compensation, split stitch, auto split, repeat stitches, etc.



Capture example: Path Section type



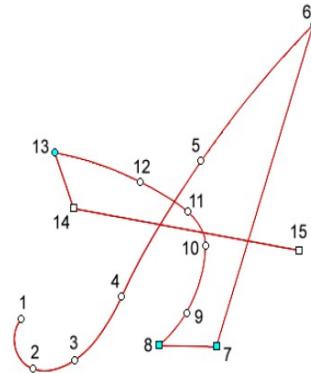
1) Select the Path creation tool.

2) Verify that the Curved button is activated.

3) Verify that the Normal button is activated, in order to produce normal nodes.

4) Then, enter the following sequence of nodes.

5) Click on the design's area for the first node 1 to 5, following the suggested shape.



6) When creating node 6, do not forget to press the Ctrl key for a corner node.

7) When creating nodes 7 and 8 do not release the Ctrl key and also press the Shift key, in this way you create a straight and a corner node.

8) Release the keys before creating node 9.

9) Continue the sequence as shown in the figure, up to node 12.

10) For node 13, press the Ctrl. key, you will create a straight corner.

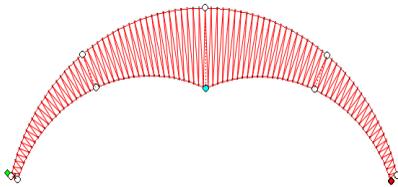
11) For nodes 14 and 15, click on Shift to create straight nodes.

12) Go to the context menu and click on Accept/OK, or press the Enter key. Generate the new stitches by pressing F9.

Columns

In the next figures, the same section is shown but the stitch type is different. You can observe how the directions guide the stitches orientation in the different examples.

Zig-Zag

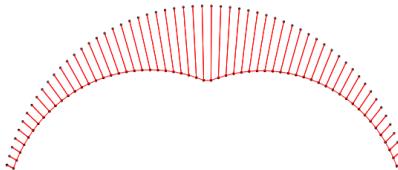


Main properties:

Color, stitch density, normal or Z type, random effect, pull compensation, short stitches, underlay, automatic stitches split, locks, etc.



E Stitch



Main properties:

Color, type (E, EE or square stitches), stitches density, jagged edge, random effect, pull compensation, automatic stitches split, repeat stitches, etc.



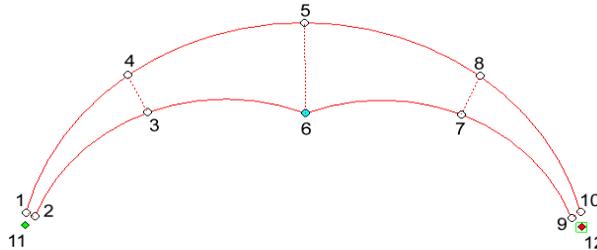
Capture Example: Column Section type

You may define straight, curved, corner nodes, etc. by working with the nodes properties. Besides, this type of section accepts split lines. You must proceed as follows:



- 1) Select the Column creation tool.
- 2) Verify that the Curved button is activated to produce curve nodes.
- 3) Verify that the Normal button is activated, to produce normal nodes. Then, enter the following sequence of nodes:
- 4) Enter the nodes 1 and 2, following the order and layout shown in the diagram. In this way, you would create the first pair of nodes.
- 5) Place the nodes 3 and 4 in the corresponding location. With this second pair of nodes, the column begins to take shape.

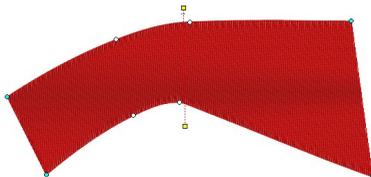
- 6) Enter node 5, press the Ctrl key while laying out point 6 (corner) and then release this key.
- 7) Insert the nodes pair 7 and 8, then 9 and 10.
- 8) Insert the start (11) and end (12) points.
- 9) Go to the context menu and click on Accept / OK or press Enter.



Areas

Next we will describe some of the different fill types with their most important properties. Have in mind that obtaining a good result depends on your knowledge of the different fill types and their features.

Uniform Area with Pattern fill



Main properties:

Color, pattern library, density, hole features, pull compensation, avoid small width, outline free of stitches, underlay, locks, random edge, etc.



Description: It consists of a series of stitches that cover the entire section. The modification of certain parameters, such as the stitch length, angle or sequence, transforms the pattern aspect. This fill type is formed by patterns with different designs, generally geometric figures.

Uniform Area with Applique



Main properties:

Color, Reference, Cut enabled, running stitches, Zig-Zag.



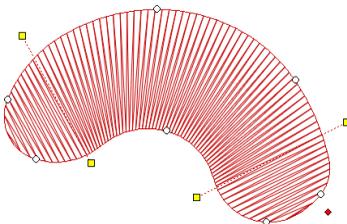
Description: This type of stitches makes stitch marks in the section's outlines, and needs an additional fabric. This fabric is fixed to the garment through the stitches produced in its outlines, generally by means of Zig-Zag stitches.

When creating this type of sections, you define the applique's shape reproducing its geometry. When embroidering a section with this type of fill, the machine first applies an artwork, reproducing the figure with running stitches; then, it inserts a machine stop to allow the embroiderer to layout the garment. Afterwards, you proceed with the fastening embroidery.



In the right figure, observe the result of working with an applique.

Turning Area with Zig-Zag Fill

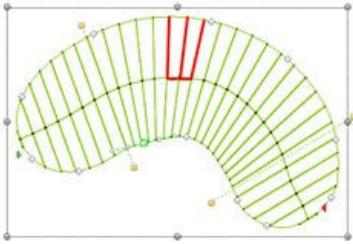


Main properties:

Color, stitch density, normal or Z type, random effect, pull compensation, short stitches, automatic stitches split, Density vs. Stitch Length, repeat stitches, etc.



Turning Area with E Stitch Fill



Main properties:

Color, type (E, EE or square stitches), stitches density, jagged edge, random effect, pull compensation, automatic stitches separation, locks, repeat stitches, etc.



Description: As the Zig-Zag fill is one of the most commonly used stitches type.

As for the E stitch, it is similar to the Zig-Zag stitch, sharing many of the properties.

On the other hand, you must remember that when modifying the type you can obtain EE stitches or Square stitches, changing considerably the final aspect of the section.

Capture example: Area type Section

You may use the straight, curved, normal and corner properties to give the desired shape to the outline of an area section; this type of section also admits Emboss Line, except for the Texture fill type. If you do not do so, *Stitch Era* will automatically fix the start and end points and at least one direction.

Considerations for the capture

During the creation of area sections, you should consider some necessary requirements, since there are certain conditions to be met. Have in mind the following points:

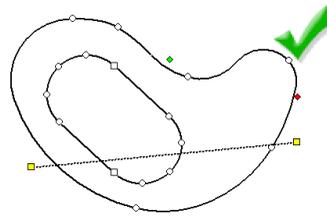
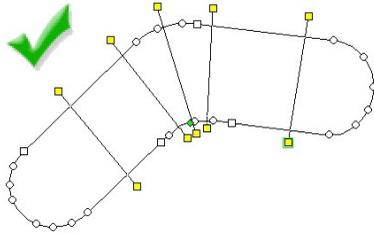
1. It is recommended that the direction line(s) cut the outline at least in one point.
2. The outline does not have to cross over itself.
3. When entering two or more direction lines, these lines do not have to intercept within the section.
4. When entering two or more direction lines, observe that they do not force the stitches to rotate more than 180°. If you need to produce an effect of this type, add a middle direction line.
5. The order you follow to create the stitches that define a direction is not important.

At the moment of designing an area type section you must enter the nodes that define the area's outline or the main artwork, and then insert holes, emboss lines, directions, etc. If you do not enter at least one direction line, a horizontal direction line will be automatically inserted. In the

same way, if you do not insert the start and end points manually, these points will appear directly in the first and last node of the main artwork.

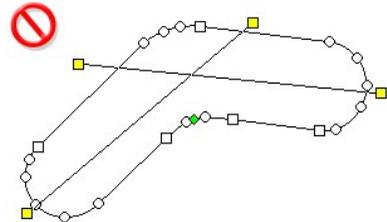
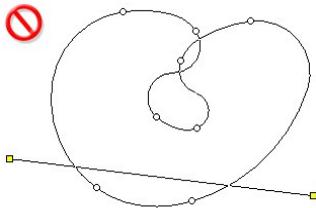
Correct Section Geometry

Observe that the following figures answer to all the requirements for the correct geometry of the sections in an Area section.



Incorrect Section Geometry

In the first figure below, observe that the outline crosses over itself. In the second figure, you can see that within the section, the two direction lines cross over each other.



When creating a section such as the one shown in the right picture, a big concentration of stitches on the upper part occurs; this can lead to some inconveniences when embroidering the design.

Observe that the directions contribute to the concentration of stitches.



Creating simple Turning Areas with Zig zag Fill.



1) Select the Turning Area creation tool with Zig Zag Fill.

2) Verify that the Curve button is activated in order to produce curved nodes..

3) Verify that the Normal node is activated, in order to produce normal nodes. Then, enter the following sequence of nodes:

4) Enter the graph's node sequence by clicking on the design's area from the first node (1 to 7)



5) From the context menu, select the Direction command and draw the line between points 8 and 9. Then draw the second direction line between points 10 and 11.

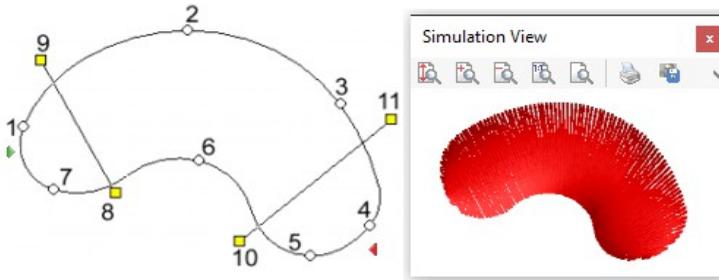


6) From the ribbon or context menu, select the start point and click next to point 1.



7) Then select the end point (also from the context menu) and click next to point (4)

8) Open the context menu and click on Accept/OK or press Enter.



The section uses two directions.

On the example next you will see the procedure to make a hole in the design and how to insert an emboss line.

Digitizing an Uniform Area with Holes:



1) Select the Area creation tool.

2) Verify that the Curve button is activated, to produce curved nodes.

3) Verify that the Normal node is activated, to produce normal nodes. Then, enter the following sequence of nodes:

4) Enter nodes 1 and 2 in the sequence shown on the following figures.

5) In node 3, click on the Ctrl key

6) Follow the same steps for capture nodes 4, 5 and 6.

7) In node 7, click on the Ctrl key

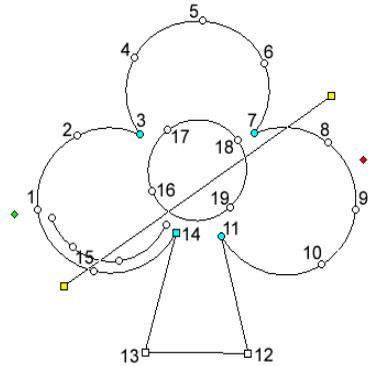
8) Then enter nodes 8, 9 and 10

9) To capture node 11, click on the Ctrl key again

10) In nodes 12 and 13, press on Shift

11) In node 14, press both the Ctrl and Shift keys

12) Follow the sequence, capturing node 15. Finally finish the figure returning to node 1.



13) Run the Holes command from the ribbon or from the context menu. Then, enter the nodes 16, 17, 18 and 19, which correspond to that hole.



14) Now, you can proceed to insert the direction, the start and end points and a split line. To do this, enter the following Sequence:



15) Open the context menu, select the Start and End point and click on an area close to point 22 (next figure).

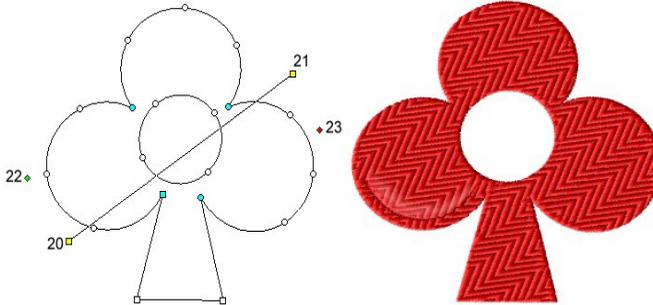


Follow the same procedure with the End Point, placing it on point 23 (next figure).



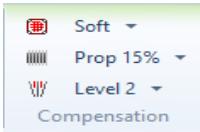
16) Again, from the context menu, Insert Section Element group, click on Direction and then on 20 and 21.

17) Click on Accept/Ok from the context menu or press Enter. Generate the stitches by pressing Ctrl + F9 key.



The result obtained should be similar to the one showed on the upper figure.

Adjustment & Compensation stitches



Sections have some additional properties to be able to solve some common issues when embroidering. One is called *Underlay* (which purpose is to create stitches under the main fill to tighten the fabric, avoiding deformation); the other is the *Pull Compensation* (to enlarge the stitches which tend to shrink when being embroidered); and the last are the *Short Stitches* (makes shorter stitches in curves or tight corners to avoid an unnecessary build-up of stitches).

All these adjustments are applied and configured from the Main ribbon. If you need to set specific values for the parameters, and access others that are not present on the main ribbon, you must open the Object Manager View and work on the Object Inspector panel.

Underlay



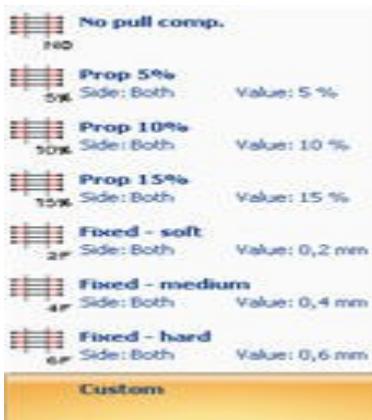
It is also known as base layer. It is used to tighten the fabric enough to avoid its deformation when the section is completed with the stitches of the main fill.

If the parameters have been set correctly (this means that are suitable for this object), then the stitches conforming the underlay will remain hidden under the main fill.

The fill properties of the base or underlay (including the underlay fill type) are found in the Underlay group, which is inside the Adjustments and Compensations tab, of the Object Inspector.

These properties are described in the Object Inspector chapter.

Pull Compensation



According to several factors, such as the stitch density, the type of fabric, the thread pull, etc., there could be fabric shrinks, causing visible variations in the stitches length.

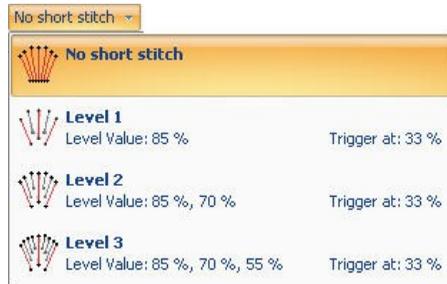
The idea of the Pull Compensation is to correct these defects by enlarging the stitches that tend to shrink when being embroidered.

Basically, the stitches are stretched on their edges.

Short Stitches

The purpose of the short stitches is to allow compensation of the lack and the heaps of stitches. This is achieved by making shorter stitches in curves or tight corners to avoid an unnecessary build-up of stitches.

This group of properties is very useful in zones of sharp curves (or differences in lengths) that leave as many spaces without thread as spaces with thread heaps.



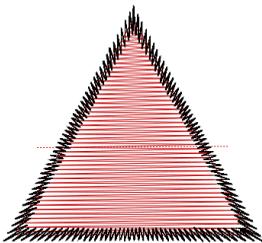
Even if the short stitches attributes are activated, they are only executed if the section being worked on really needs it.

The Levels correspond to the number of short stitches to be introduced when there is a sharp curve in any area of the section.

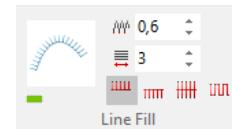
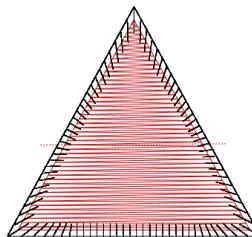
Borderline

Some sections allow the automatic creation of a path over its outline, producing stitches in the border of the section. This is a way of providing the section with a better finish than the standard one. When a section type has a main fill that allows you to use an automatic outline, the ribbon bar shows the Border tab. This tab contains the fill properties of the outline (including the fill type and color of the outline). The options for this fill type are similar to the options for a Path fill.

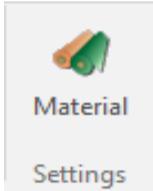
Border with Zig-Zag



Border with E stitch

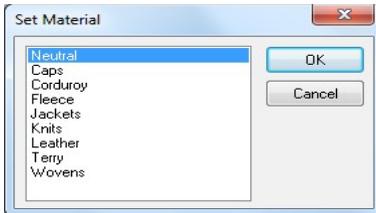


Materials



Depending on the type of material you will use to embroider your design, you will need to use different stitch density, stitch length, tie offs, underlays, etc. Most of your embroidery settings strongly depend on the material you are going to use.

To help you manage this situation, Stitch Era uses a material library with settings for the most common materials and automatically makes a proper adjustment on many stitch parameters according to the material you have selected.



On the *Embroidery* ribbon > *Settings* group, click on *Material*, to open the *Set Material* window. Select the material you need and click OK.

Stitch Era applies material settings to those parameters that are using the default values. Properties you may have edited, will remain unaltered.

It's a good practice to set the material as one of the first tasks when you are creating new designs. Then, during the design process, use the default values as much as possible. Later, you will be able to change the material and almost all the settings will reflect the material change properly.

You can add your own material settings using the Material Editor box. Open it from *Embroidery* ribbon > *System Libraries* group > *Embroidery Settings*, click on *Materials Library*...

Material Editor			
Name:	Caps		
Caps	Small Text	Zig-Zag	Patterns
Density	4,80 [lines/mm]	5,50 [lines/mm]	5,00 [lines/mm]
Variable Pull Comp.	5 %	0 %	0 %
Fixed Pull Comp.	0,0 mm	0,0 mm	0,3 mm
Underlay	Centered	Edge	Edge Parallel
Passes	2	1	2
Stitch Length	1,2 mm	1,6 mm	1,8 mm
Margin	0,0 mm	1,0 mm	1,0 mm
Density	0,00 [lines/mm]	0,00 [lines/mm]	0,80 [lines/mm]
Max. Stitch Length	0,0 mm	0,0 mm	2,0 mm
Under Path	1,2 mm	1,6 mm	2,0 mm
Pattern	<None>	<None>	PTM-0044

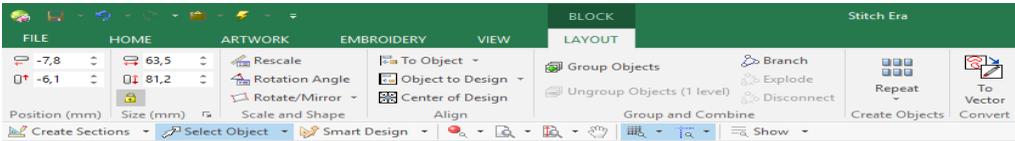
Object Blocks

A block is a group of one or more sections that merge to be temporarily treated as a whole unit. You can use this type of edition to make, for example, the same modifications to a group of sections. Generally, this is necessary when there are several sections forming an only figure, such as explained below.

The job sequence to create blocks is the following:

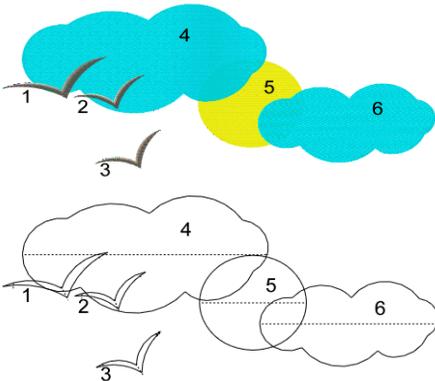


- 1) Select the object sections that will form the block, from the Select Object mode.
- 2) Work on the block by using the necessary commands in the *Block > Layout* ribbon to modify it (expand, rotate, etc.).



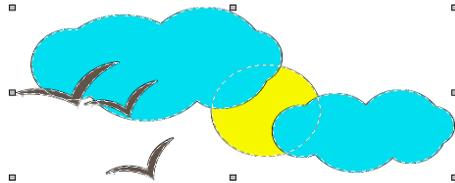
- 3) Accept the modifications, unselect the block and save it.

Stitch Era highlights the sections included in the block with dotted lines. Then, modification points will appear in its corners and centers, surrounding the selected block.



On the figures you can see that the design has 6 sections.

In the last figure, observe the frame that *Stitch Era* displays after creating a block with all its sections.

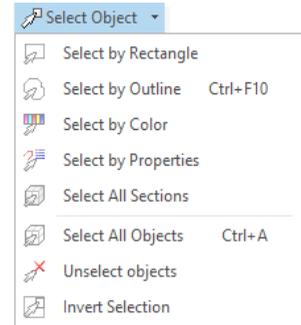


Selecting blocks

A large set of selection tools is available from the Select Object menu, located on the auxiliary toolbar (above the workspace and below the main ribbon).

They allow you to create your blocks by selecting objects using different methods.

Below you will find all the methods, explained one by one.



Select All Sections / Select All Objects

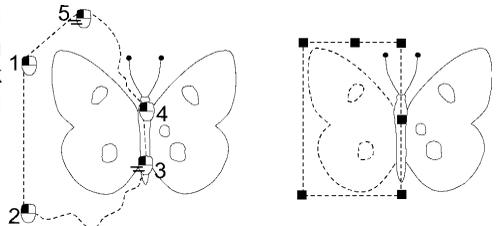
The first command creates a block containing all the embroidery sections of the design, while the second one, selects all the objects in the design (sections, raster images and vectors)

Select by Rectangle

 This selection mode corresponds to the dragging type selection. To make the selection, click on the *Select by Rectangle* button and then create a rectangle enclosing the sections to be included.

Select by Outline

 This tool enables you to mark several sections, due to the possibility of enclosing elements within the selected area. The block is formed by all sections totally included within the area.



Having pressed this button, click repeatedly around the sections to select. Press the Enter key to end the process. Observe in the previous image how this tool was used to select the butterfly's wing.

Select by Color



This tool allows you to create a block with all the design sections that have the same color. Without making any selection click on Select by Color, and then click on any of the sections that have the desired color. A block with all the sections that share the same color is created.

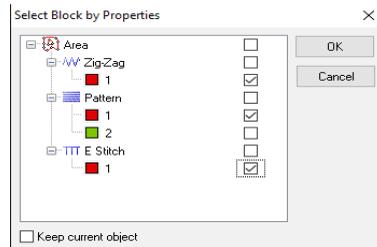
Select by Properties



With this utility you create section blocks from a selection based on the section type, the color and the stitch type.

Stitch Era forms a block with all the sections, which boxes have been checked. Afterwards, work on the block as you normally do. When activating this command, the window similar to the figure on the right appears.

It shows a tree with all the section types of the design. If you have already selected sections on the workspace and want to add elements to the selection by means of the Block Selection by Properties, check the Keep Current Section option, before clicking OK.



Click on the [+] symbols on the left of each type, to open the branch corresponding to that type; in this way, you obtain a list with all the existing design types for that kind of section.

In the same way, expanding the branch of every stitch type, you will find a numbered list of sections, along with the color that corresponds to each one.

On the right side of the list, a group of check-boxes allow you to select in every tree level, from the most internal branch, that selects only a specific section, to the most external one, that selects all sections of a specific type.

Invert Selection



After creating a block with a group of sections of a design, use the command Select Object > Invert Selection to obtain a block containing all the sections, except for those that were already selected. This command is only available when there is a block already defined.

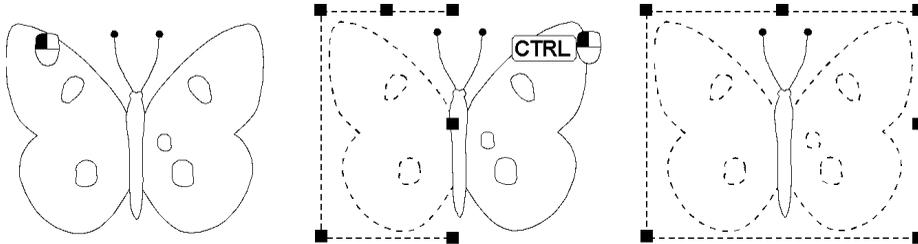
Unselect objects



Use this command to clear the current selection. It will not delete the objects, it'll just unselect them.

Create a block using the Ctrl key

- 1) Enable the Select Object mode (press F11).
- 2) Click on the first section of the group that you want to select.
- 3) Keeping the Ctrl key pressed, click on each section that you want to add to the block.

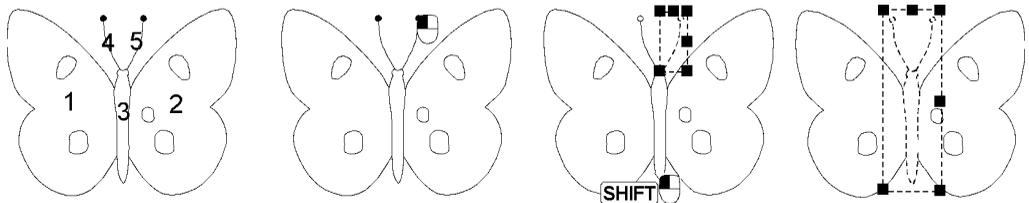


In the same way that you can add new sections to the block by pressing the Ctrl key and clicking on the section you wish to include in the block; to remove a section already included, press Ctrl + and click on it.

Select a range of sections

A range of sections is a consecutive group of sections within the sequence of sections. You can select a range of sections to define a block; to do so:

- 1) Enable the Select Object mode (press F11).
- 2) Click on the first section of the chosen range.
- 3) While keeping the Shift key pressed, click on the last section of the chosen range.



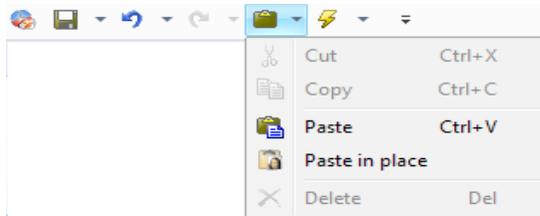
In the selection of a range of sections, the block will contain all the existing sections between the first to the last one selected, including both of them.

Sections sequence of a design: It has to do with the order in which sections are created; the sections will be embroidered by following this same order. In other words, it is the order in which the group of stitches and controls are executed in the embroidery machine. Stitch Era takes the order in which you create the sections as the design sequence.

Block functions

It is possible to take some actions with a selected block, such as: copying it, to paste it in another document, delete it, etc.

The following operations are available from Clipboard of Quick Access Tool Bar.



Delete Block



Use this command to delete a group of sections without modifying the rest of the design. First of all, it is necessary to select a block. Then, access the context menu and click on the Delete Block button or press the Delete key.

Cut



This command copies the block selected into the clipboard and deletes it from the current document without modifying the rest of the design. The block cut remains in the clipboard. Activate the command from the toolbar or click on Ctrl + X.

Copy



This command copies the block into the clipboard, without altering the current design or deleting the original block. Click on the Copy command from the toolbar or click on Ctrl + C so that the clipboard holds the selected block. Then, paste it wherever you want.

Paste



This command copies the clipboard content in the active document. To use this command, you must have previously copied or cut a block. Click on the Paste command. Paste in the toolbar or press the Ctrl + V keys.

Paste in Place



This command copies the clipboard content in the active document, but exactly in the same place of the object copied (original).

After pasting from the clipboard to the active document, it is possible that the block is not on the right place. Move the inserted block to the chosen place.

To do so, place the mouse pointer inside the rectangle (the pointer will change its shape into a cross) and drag it. This does not modify the position of the block in the sequence, just its physical position.

Block Scaling

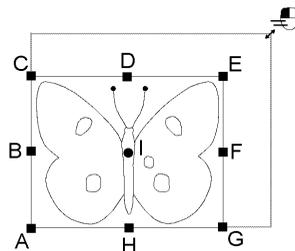
Scaling is the variation of the block size. Basically there are two types of scaling:

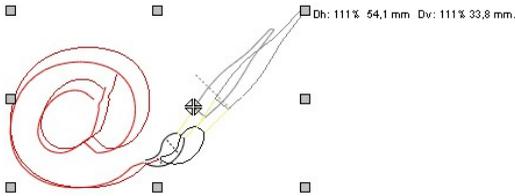
- **Proportional:** It does not produce any deformation in the sections that form the block.
- **Non proportional:** It makes a size change of the block but with changes in the shape of the sections that form it.

Proportional scaling

This function allows increasing or reducing the selected block size without changing its proportions (without deforming the design).

In the right figure, it can be observed that while dragging any of the corners (A, C, E, G of the figure) outside the shape of the rectangle, a proportional expansion of the block took place, keeping the opposite corner in the same position. In the same way, if the corner is dragged towards the center of the rectangle a proportional compression takes place.

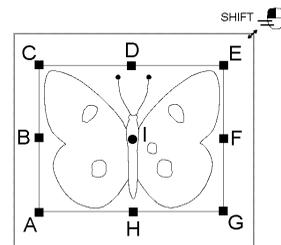




When making any change in the size of the block some values appear next to the mouse pointer. These values correspond to the modification percentage and the new sizes (height and width) of the block. When you release the mouse buttons, *Stitch Era* will show the expanded or compressed block. Press Enter to confirm the modification.

In the proportional scaling, by keeping the Shift key pressed when dragging one of the corners, you make a proportional expansion or compression but maintaining the center fixed instead of the opposite corner.

This is very useful when you wish to change a block size keeping it in its place.

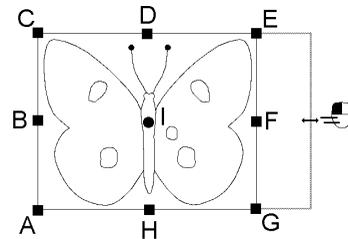


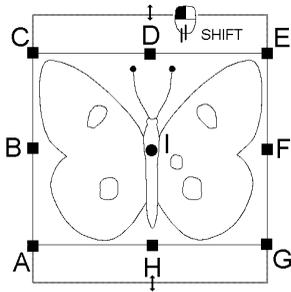
Non proportional scaling

Allows changing one of the block dimensions, horizontal or vertical, distorting it towards that direction.

In the figure, observe that while dragging the centers B and F towards the outside of the rectangle, an expansion in the horizontal axis occurs, keeping the opposite side in its place and maintaining the vertical size of the box.

If dragging towards the center of the rectangle, a compression in the horizontal axis occurs. In the same way, while dragging D and H, the block expands or compresses in its vertical axis and keeps the size of the horizontal axis.





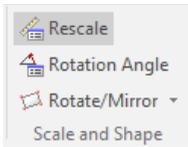
In the non proportional scaling, by keeping the Shift key pressed when dragging, you make a proportional expansion or compression maintaining the center position fixed (I).

This is a useful option to increase or reduce one of the block dimensions keeping it in its place.

Accurate Scaling and Rotation

The changes in Scaling and Rotation allow you to establish the size and slant of a block in a graphical and interactive way on the graphic view. In those cases where it is required to alter the dimensions or angle of a block in an accurate way, you have these two tools to specify a block size or angle and then establish the value you wish to set.

Rescale

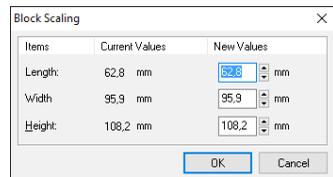


This tool allows you to make an accurate adjustment of a block size. The way of working with this tool is the following:

1) If necessary, use the Zoom level that allows viewing the block in detail. This action is highly recommended.

2) Select a block. Select Rescale tool from the Layout Ribbon. Then click on a point in the block and drag it. *Stitch Era* draws a line between the point and the pointer position.

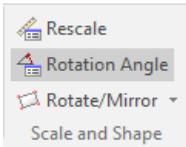
3) Release the mouse button. The Block Scaling box will appear, allowing you to see the size of the drawn line and enter a new value.



While clicking OK, the block will be scaled in such a way that the line drawn will have the new value you have chosen.

You can also use the Width and Height commands to give the block an accurate size.

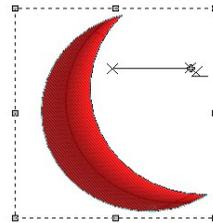
Rotation Angle



In a similar way to Rescale, this tool allows you to accurately adjust a block's angle. To use this tool, proceed as follows:

1) Select the block and use the Rotation Angle tool from the ribbon

2) Click on a block point and drag towards another point (right figure). If you draw a perfect horizontal line with the Align Angle tool, the value shown in the New Angle of the Line window (from the Block rotation box) will be 0. You can achieve this by pressing the Ctrl key while drawing the line.



3) When releasing the mouse buttons, enter the new angle for the line drawn in the dialog box (right figure).

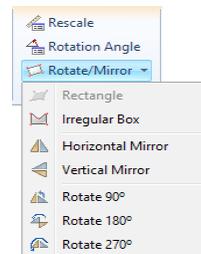


Rotate & Mirror

The mirror command is a modification of the design in order to invert the block from the left-right and right-left position (Vertical Mirror), and up-down and down-up position (Horizontal Mirroring).

To do so, select those tools from Layout Ribbon > Size and Shape box > Rotate/Mirror.

From this same sequence you will be able to rotate the selected block 90°, 180° or 270°.



Rotate freely

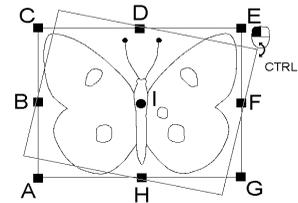
You can make a series of changes on the block by clicking and dragging the centers and corners. While doing so, it is sometimes necessary to capture a corner or center, for this to happen, move

the mouse pointer onto the element to capture, for example, a corner. When the pointer is over the corner, the drawing will change its shape, and then you must drag the corner.

To freely rotate a block, simply drag any of the corners keeping the Ctrl key pressed. The rotation is made around the central node (I).

When releasing the mouse buttons, *Stitch Era* shows the rotated block according to the chosen angle.

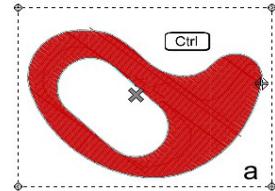
Press the Enter key to confirm the operation.



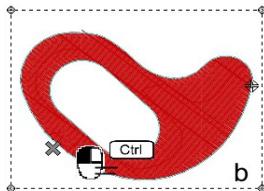
Changing the position of the block axis

You can alter the position of the central node before making a rotation. Remember that the central node is the element that acts as the block axis and is located in the center of the block (figure a).

In this way, after modifying the central axis of the block, the figure rotates around the new axis position. For this to happen, you must do the following:



1) Place the pointer over the axis in the middle of the design, until the pointer changes the shape to a grey cross.

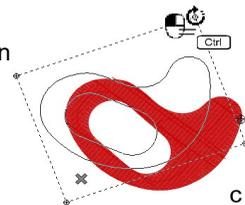


2) Press the Ctrl key and move the pointer. While doing this you are moving the axis of the block (b). After positioning the axis in the desired place, release the mouse button and the Ctrl key.

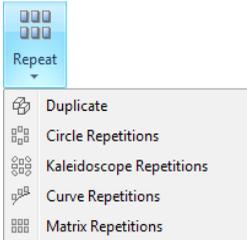
3) After placing the axis in its new position, take any of the corners and rotate it with the Ctrl key pressed (c).

Observe that the block rotates over the new rotation axis.

4) To finish the process, press the Enter key so that the block remains in its new place.



Repetitions



The following functions allow you to duplicate one or more times the selected block. You can access these commands from the *Block – Layout* ribbon > *Create Objects* group.

Duplicate Block



This command performs a copy and paste of the selected block in only one step. It always works on the active document.

Circle Repetitions

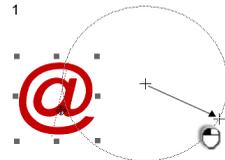


Use this function to duplicate the block a certain number of times; the copies of the blocks will appear blended on the outline of a circle you establish.

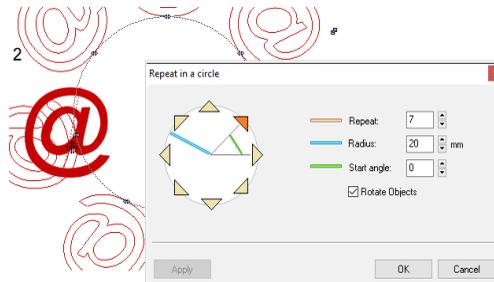
The duplicated blocks are placed along the perimeter of the traced circle. You choose the number of blocks copied, the size of the circle and the slant angle.

To work with this tool follow the steps explained below, changing the values until obtaining the desired result:

1) Select a block, activate this function, and click on a point in the working area and drag without releasing the mouse button. A circle will be drawn on screen. When you have achieved the desired size, release the button of the mouse (figure 1).

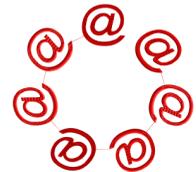


2) When you release the mouse button, the “Repeat in a circle” window appears. Define the number of repetitions, the radius of the circle and the angle (2). In order to visualize the result obtained before confirming the modifications, click on the Apply button. Once you are satisfied with the result, press OK.



3)The result obtained will appear in the design document together with the original block.

Have in mind that when you uncheck the “Rotate Objects” item, the duplicated blocks will remain vertical among each other.



Kaleidoscope Repetitions



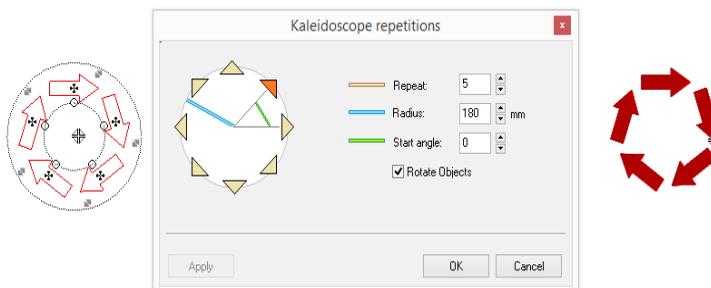
Use this function in order to duplicate the block a certain number of times; the copies of the block will appear adjusted to a mold in the shape of a kaleidoscope.

To work with this tool follow the steps explained below, changing the values until obtaining the desired result:

1)Select a block, activate this function, and the Kaleidoscope window will open. Define the number of repetitions, the radius of the circle and the Start angle.

If you check “Rotate Objects”, the blocks will rotate along the circle, changing their direction.

2)To visualize the result obtained before confirming the modifications, click on the Apply button. Once you are satisfied with the result, press OK.



Curve Repetitions



Use this function to duplicate the block a certain number of times; the copies of the block will appear blended over the line you trace.

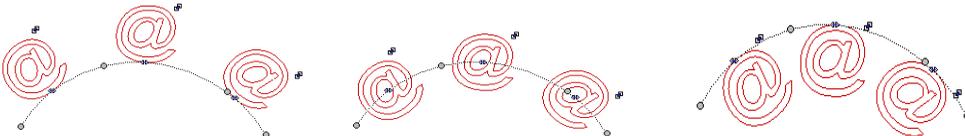
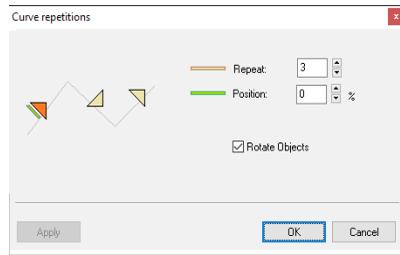
The duplicated blocks are placed along the traced line. You choose the number of blocks copied, the baseline and the position of the blocks regarding the baseline, measured in percentage. In order to work with this tool follow the steps explained next:

1) Select a block, activate this function, click several times on the working area; in each mouse click you will insert a node. You can create curved or straight nodes by clicking on the Shift and Ctrl keys respectively.

Press the Enter key when you have defined the baseline; the box shown in the right figure will appear.

2) In the Radial box define the number of repetitions, the position and whether they rotate or not throughout the baseline.

In the figures below you can see a Repetition which was set to 0% Position, in the second figure the Position value is 50%, while in the third figure the value is 100%.



Matrix Repetitions

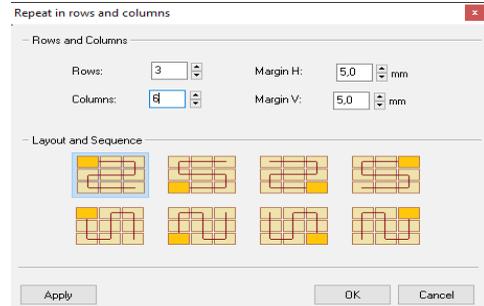


Use this function in order to duplicate the block a certain number of times; the copies of the block will appear adjusted to a mold in the shape of cells.

The duplicated blocks adapt to each matrix cell. You define the number of rows, columns and the horizontal and vertical distance from the matrix cells. In order to work with this tool follow the steps explained below:

1) Select a block and activate this function. The right figure shown in the next page will appear.

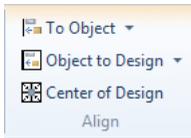
2) In the Matrix box define the number of rows and columns and the distance between them.



When you accept the values entered, the result will appear in the working area; the block will be reproduced a certain number of times depending on the values entered.

In the example we have applied this transformation defining a number of rows equal to 3, while the Columns value corresponds to 6.

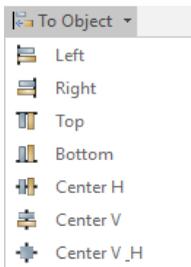
Alignment



The *Block-Layout* ribbon or the context menu has a group of alignment tools available.

These utilities are divided into two groups: Alignment of the sections of a block and Alignment of a block to the design.

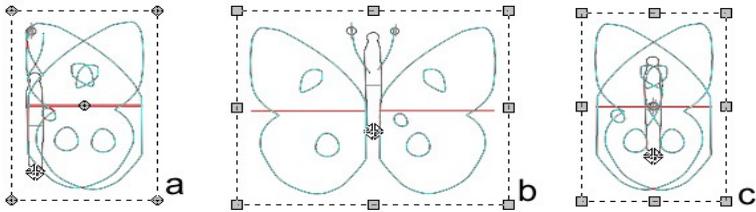
Alignment of the sections of a block



Allows you to align the block sections to left, right, top, bottom and center in both axis or in either of the two regarding to the block.

The alignment function considers the section which is closer to the left, right, upper or lower borders or the maximum size in order to perform the corresponding alignments.

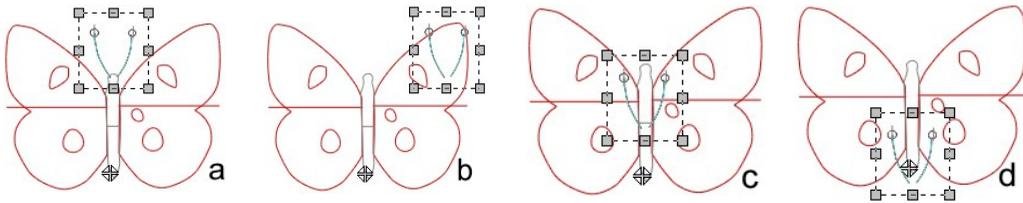
On the figures on the next page you can see a block which is aligned to the left (a), top (b) and centered (c).



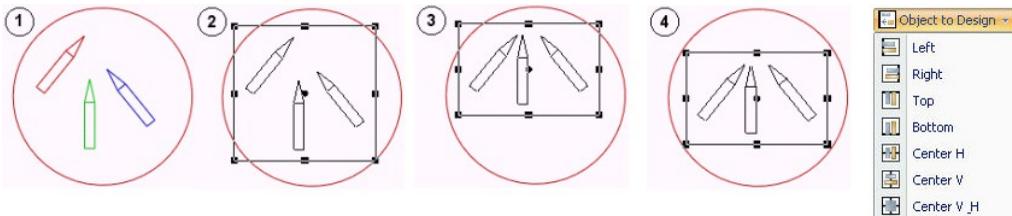
Alignment of a block to the design

This function allows you to place the block on the left, right, top, bottom or center, in both directions or in either of the two regarding to the whole design.

These tools do not alter the position of the sections inside the block; instead, they move the whole block. In the figures below, you can observe a block of two sections inside a bigger design (a), then, a block with an alignment to the right side (b), centered (c) and finally, to the bottom side (d).



Alignment example:



In example (1), the center of the circular section is in the origin of the design. Using the Edit Block tool, a block with its three internal sections was created (2).

Then, the Align Top command was applied (3).

Finally, the block was centered according to the design (4) using the Align Centered command.

Conversion of a block to a vector image

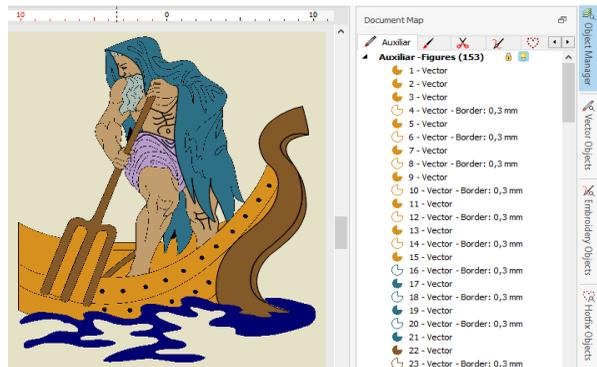


This function allows you to convert a block of objects to a group of vector images.

Its useful when you have a design on your workspace but you don't have the reference image that lead to it, and you want to keep it as the basis for other artworks.

To apply this function, follow these steps:

- 1) Enable the *Select Object* tool (press F11), and select a block of objects to convert to vector. The block will be surrounded by a dotted rectangle.
- 2) On the *Block-Layout* ribbon > *Convert* group, click on "To Vector".
- 3) The result will be a group of vector objects which will appear listed in the Auxiliar-Figures tab of the Document Map on the Object Manager. Every embroidery object will have its corresponding vector image.
- 4) Select all the vectors converted and save them by going to the *Artwork-Vector* ribbon > *Export* group > *Save* option.



You can now open the vector image and modify any of its figures, as seen on chapter 6 - Images and Vectors.

Chapter 9

Object Manager

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In this chapter, we will focus on a very important Stitch Era tool called Object Inspector and the views related with it.

The sidebar located on the right of your screen displays a set of views that allows you to explore the structure of your designs and to work with the properties of the embroidery objects, controlling, in detail, the stitch generation.

The Object Manager

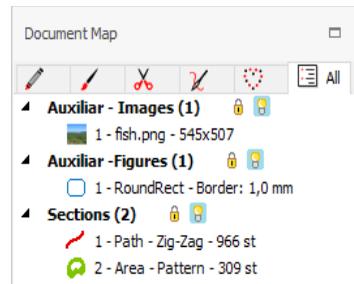


The Object Manager view is split into two panels: a main, tree panel, the Document Map; and another panel called Object Inspector.

Document Map

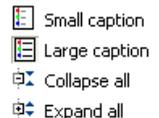
This panel contains a representation for all objects existing in the design. The highest level classification distinguishes Raster and Vector Images, Sections (embroidery objects) and hot fix elements.

Controls at the right of each object type show how many objects of such kind exist in the design and let you hide/show and lock/unlock them.  



Some options to control the tree look are available when you press the mouse right button on the panel header:

- Small caption / Large caption: Lets you control how many information is displayed for each element.
- Collapse all / Expand all: Expands or contracts the entire tree.

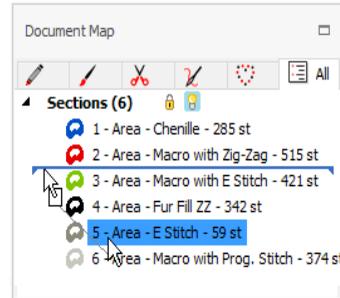


The Document Map view is strictly hierarchical and displays single objects and objects packs (simple sets of sections or connected sets) with their contents.

Using the document map to edit object sequence.

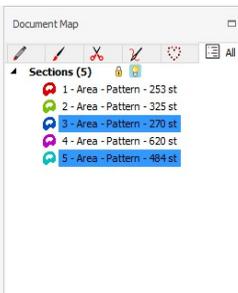
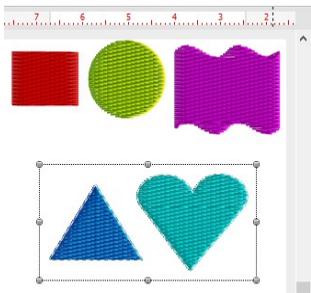
Dragging any section within the document map, an horizontal blue line appears.

The line, that is always located between two objects, indicates the position within the sequence where the object been dragged will be placed if you release the mouse button. This way, you can easily change the position of any section within the design sequence.



Groups, Section Packs & Section Branch

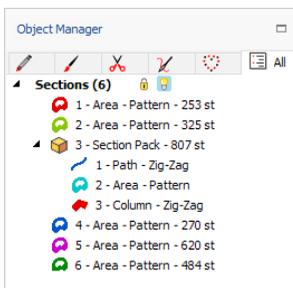
Groups



We call Groups to sets of objects geometrically linked. This means that all the objects in a group will be moved, scaled and transformed together, as a whole. Objects in a group may be in any position within the embroidery sequence consecutive or not.

Groups are not shown in the Object Manager in a special way. Just all the sections belonging to a group are highlighted when you select one of them.

Section Pack



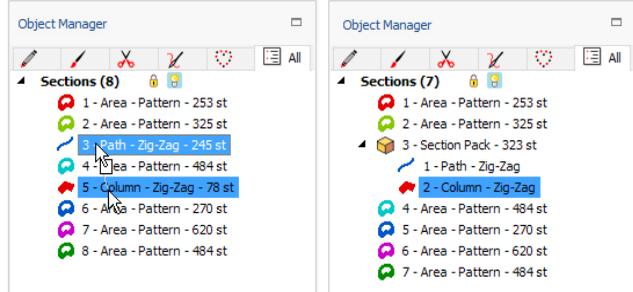
A Section Pack is also a set of sections geometrically linked but, all the sections in a section pack are consecutive in terms of embroidery sequence.

The tree shows them as an expandable item with sections inside it. You can use the “▶” icon to explore the pack contents. The embroidery sequence inside a pack is controlled by the position of the sections that made it.

To create a Section Pack, just drag a section over any other, while pressing the Ctrl. key. Both of them will be joint into a Pack.

Then you can add sections to an existing pack simply dragging them inside it.

To dissolve a Section Pack, select it on the Document Map and on the *Package-Layout* ribbon > *Group and Combine* group, click on *Explode*.



Section Branches

A more advanced concept related with section grouping is the Section Branch. They are also groups with members that lay consecutive within the embroidery sequence, but the stitches are arranged so the whole group has just one entry and exit point.

Although sections are shown in an order, stitch sequence inside a branch is controlled by the system, it may not proceed as displayed and can not be modified. To create a Section Branch you need to use the graphic view. Section Branches can not be created from the Object Manager.

Branching is explained in Chapter 10, page 31.

The Object Inspector (List View)

The lower panel of the Object Manager is occupied by one of the most important Stitch Era tools, called the Object Inspector.

This is the only panel that can be configured as floating, always on top window, extracting it from the Document Manager frame: just click over the Object Inspector header and drag it into the workspace.

The Object Inspector has two possible visualization configurations: *List View* and *Detail View*.

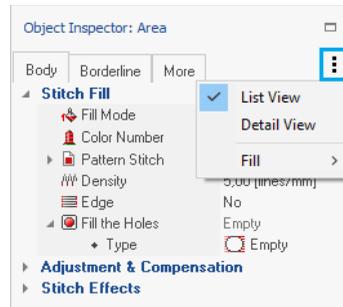
Click on  and choose the view type you prefer:

List View: shows a tree list that contains all the settings available organized within tabs.

Detail View: shows a more detailed form of the same settings.

No matter what view you choose, you will find all the settings you need to control how the stitches are generated. We generally call these settings Properties or Fill Properties.

Object Inspector is strictly contextual, that is, it displays the properties that belongs just to the selected object or to the object being created.



Our explanations will be based on the *List View*. At the end of this chapter you will find a brief explanation of the *Detail View*.

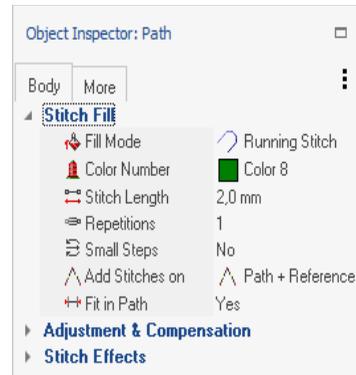
Object Inspector organization

The Object Inspector organizes the properties within tabs. Depending on the section type, it displays up to three tabs called Body, Borderline and More.

For example: In Area type sections you have the three tabs active, while in path you only have the tabs Body and More.

Each tab also contains a group of sections. Sections can be opened or closed using the arrow icons at the left or double clicking the section header.

Inside sections, some properties are single rows with a text label indicating the property name at the left and the value at right, while others are groups of properties. Groups can be opened or closed using the arrow icons at the left or double clicking the group header. Expand the group displaying its contents.



Most of the properties display a hint message, that indicates the values allowed for that property, when leaving the mouse pointer over them for a second.

Properties help is available when you select a property and press the F1 key.

Body Tab

The body tab contains the properties to control the fill stitches of the main fill of a path, column or area.



Stitch Fill: This section groups the main properties like fill type, color, density, etc.

Adjustment and Compensation: Contains the properties used to control the compensation tools, which are required for achieving a professional design, like underlay stitches, thread tension pull compensation, short stitches, etc.

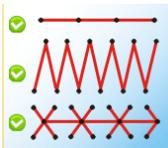
Stitch Effects: Contains advanced properties to produce stitch effects like random, density modulation, etc.

The following sections describe the properties available, organized by fill mode.

Due to many properties are shared by different modes, not all fill modes are specifically mentioned.

Stitch Fill – General Properties

Fill Mode



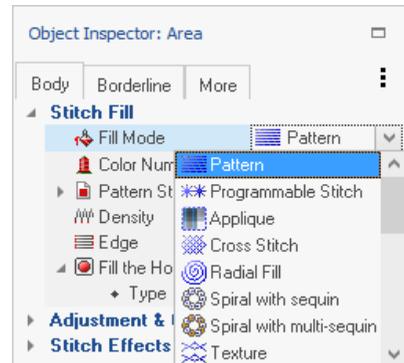
The fill mode is the type of stitches chosen for the section.

It can be: Running Stitch, Zig-Zag, E stitch, longitudinal stitch, programmable stitch, patterns, spiral, photo, sequin, texture, flexible, auto fill, appliqué or cross stitch, depending on the section you are working with and on the system level you have installed.

All the other items present in the Object Inspector depend on the option defined in this item.

When you change a section's fill mode, you can see how the other properties showed in the Object Inspector change too.

Nevertheless, there are some properties that are common to the majority of the different fill modes, like Color and Density.



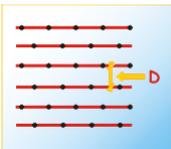
Color



It refers to the main color of the section. The stitches that form the section's main fill will be created in the selected color. It corresponds to a determined needle number in the embroidery machine.

This option is available in practically all fills.

Density

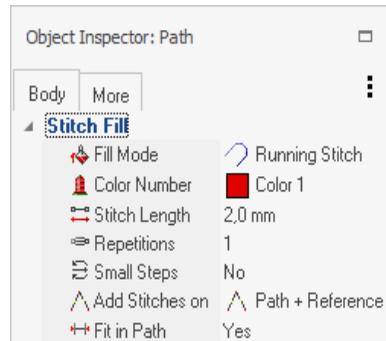


The density shows how many lines of stitches (by length unit) are created during the section processing. The more density a section has, the more stitches it will create and the spacing between them will be less. This property is present in Zig-Zag stitches, E stitches, longitudinal, pattern and flexible fill either on a Path, Column or Area.

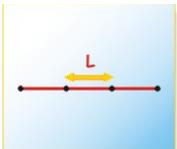
Properties for Running Stitch fill type

Running stitches are mainly available for Path type sections (and as Borderline fill for columns and areas). However, many fill types based on running stitches, like Longitudinal, Flexible and Radial fill modes, have almost the same properties.

Anyway running stitch fill mode for path sections have specific properties not available in other modes.



Stitch Length

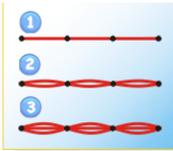


Gives the distance between consecutive stitch marks (needle perforations). If you enlarge this value, there will be more distance between the stitches.

This property is also available for the following fills: Longitudinal (in Path, Column and Area sections), Flexible and Radial (Area sections).

Fill type available depends on the product level you acquire.

Repetitions



It is the minimum amount of overlapped stitches.

When a Path has more than one repetition, the running stitch is embroidered and the machine will make running stitches on it, according to the specified value.

Repetitions are generally used to enhance the running stitches.

Small Steps

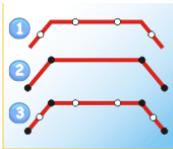


The running stitch can be achieved in two different ways:

Small steps: Implies that the stitch by stitch advance is done in the following way: step forward, step back and step forward again. They imply a return stitch (step back stitch).

Long steps: The advance is done from beginning to end, repeating all the path backwards and finally forwards.

Stitches On



It defines where the stitches will be made. The options are:

(1) **Path:** it only respects the traced path

(2) **Reference:** stitches are generated only on the nodes

(3) **Path and Reference:** stitches are generated along the path and in the traced nodes.

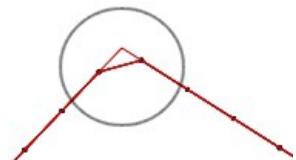
Fit on Path



Makes a regular stitch spacing from one reference to the other, using a similar value to separate them, along the Path.

This property works in the cases where there is an adjustment between references, that is to say, that the 'Add stitches on' property was set to 'Path and Reference'.

Selecting the *Reference* or *Path and Reference* option from the 'Add stitches on' box, you achieve better finishing, especially in the section's angles. Errors like the one shown on the right figure may be avoided by applying this property correctly. Observe that the thread does not adjust to the reference node in the angle, resulting in incorrect corner. This results when setting property on "Path".



Properties for Zig-Zag Stitch fill types

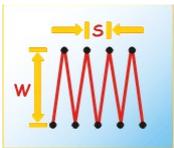
Even though the properties we will describe are available for Zig-Zag stitch types, they also appear in many other fill types.

Zig-Zag stitches are available in Path, Column and Area sections type fills. Properties already seen available in Zig-Zag stitches: Color and Density.

For this type of stitches the Adjustment & Compensation and Stitch Effects sub-panels are available. They depend of the Body panel.



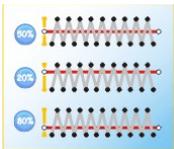
Path or Column Width



Defines either the stitches column width or the thickness of the path. If you increase this value, the path width enlarges.

This property is also available in the following fills: E stitch, Longitudinal stitch (available in Path, Column and Area type sections), depending on the system level you have installed.

Path Offset



This property defines the location of the fill along its axis: possibilities vary from 0% to 100% from side A to side B, 50% corresponding to the fill axis.

This property is also used in E stitches and Longitudinal stitches (available in Path, Column and Area type sections), depending on the system level you have installed.

Type of Zigzag



Zig-Zag type fill stitches can be standard (normal) or Z-type, in which stitches are parallel between them and the odd ones produce the forward movement.

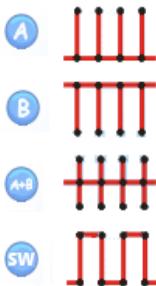
This property is exclusive for Zig-Zag type stitches.

Properties for E Stitch fill type

The properties of these stitches are similar to the ones for the Zig-Zag type stitches, except for the Side option available for E stitch.

These stitches are available in Path, Column and Area sections depending on the system level you have installed. Properties already seen available in E stitches types: Color and Density. For this type of stitches the Adjustment & Compensation and Stitch Effects sub-panels are available. They depend of the Body panel.

Type



From this item you can choose where the stitches are placed. You have four alternatives:

Side A, Side B: According to the side you choose, the side of the stitches changes.

Side A-B (Both). Stitches are created on both sides of the section, thus resulting in the so called EE stitches (double E).

SW: The layout of stitches is modified, turning them into square type stitches.

Properties for Programmable Stitches fill types

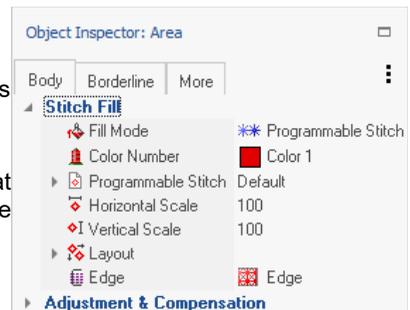


From the Object Inspector you can modify both the pre-designed figures (typical of this type of stitches) and the colors section (up to 4) and a series of variations, such as scales, number of rows, etc.

Programmable stitches fill type is available for Path, Column and Area type sections.

A programmable stitch is formed by a group of stitches, as shown on the upper figure.

When you apply the fill to a section, such stitches will repeat forming figures that are duplicated one beside the other (like a mosaic) until all the section area is covered.

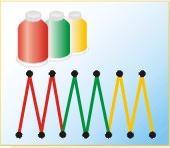




In the left figure observe the result of applying a programmable stitch to a section. The properties of the programmable stitch type of fill vary according to the type of section being edited.

Note that some properties may or may not be available in your system, depending on the product level you have acquired.

Colors



It is the fill color list.

The stitches that form the main fill will be generated in the sequence of colors chosen. Colors are associated with needle numbers.

Name



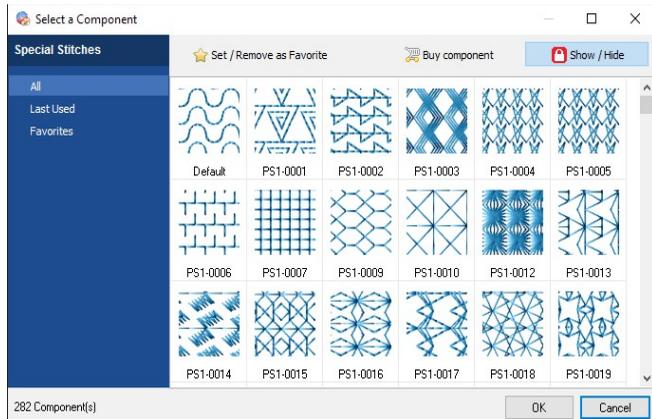
It is the library component with which the fill is made.

If you change the component you achieve different results for the same fill type. To do so, click on the ellipsis button [...] to the right of the Programmable Stitch row.

You will access the window shown on the figure right, where you can choose the programmable stitch from the system library, by double clicking on it.

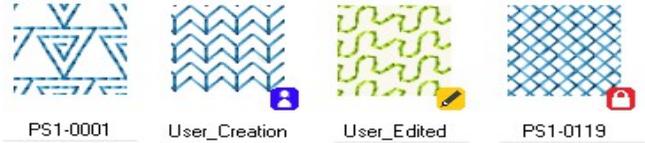
On the Programmable Stitch Library you will find four type of components:

- Free_Use: included in your system, for example PS1-0001.
- User_Creation: those created by you (blue User icon)
- User_Edited: those Sierra components that have edited by you, made some changes and saved it with another name. These work only on your system



and cannot be shared (yellow pencil icon).

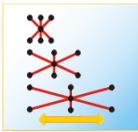
d) Blocked: they are optional components available for purchase (red padlock).



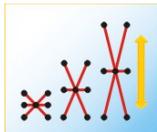
You can click on the yellow star to create your Favorites library to filter the components, and display just the ones you commonly use.

Scale

Horizontal



Vertical

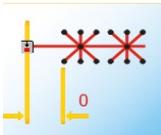


Change the dimensions of the component on its horizontal and vertical axis.

Suggested value: 100%

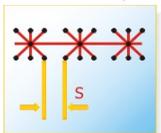
Layout

Horizontal Offset



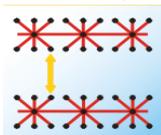
Spacing between the horizontal rows that form the fill; varying this value you produce a horizontal offset that displaces the lines produced by the programmable stitch, thus resulting in an effect.

Horizontal Spacing



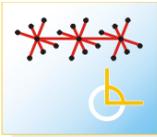
Horizontal spacing between consecutive components (for Path and Area type sections).

Vertical Spacing



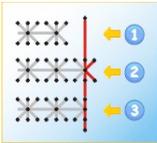
Vertical spacing between rows (for Area Type sections only)

Rotation



The component will be rotated around the path-line by the angle specified by this property.

Edge Mode (Border)



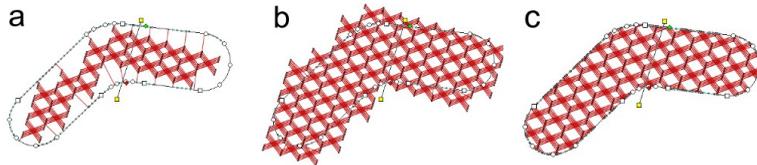
This property controls the behaviour on the section's edge. There are three options:

Exclude Border (Inside): The programmable stitches fill the area entirely and are included within the section's limits (sometimes they do not reach the edge).

- **Include Border (Outside):** The programmable stitches fill the area entirely but totally included inside the section, even if they fall outside the area.
- **Edge (Default):** The programmable stitches that fill the area are cut out, according to the borderline of the area.

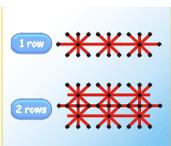
Observe the examples of Edge mode application in the following figures:

- a) Exclude (Inside)
- b) Include (Outside)
- c) Edge



Available in Area sections with programmable stitch, depending on the system level you have installed.

Number of Rows (for Path type sections)

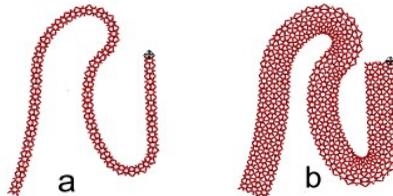


Number of rows of programmable stitches on the path.

Suggested configuration is 0 (automatic). This configuration is available in Path, Column and Area type sections with a programmable stitch fill, depending on the system level you have installed.

If you increase this value, you get the effects shown in the figures:

- a) Path with programmable stitch.
- b) For the same section, we specified a value of 3 rows (the same row is repeated 3 times).



Fit on path (for Path type sections)

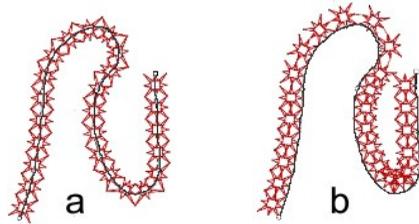


It allows you to fit the programmable stitch on the path, thus presenting a continuity between consecutive programmable stitches, allowing a deformation. If this option is set to No, the figures formed by the programmable stitch are not deformed.

In the figures please observe a same section with the Fit to Path option:

- a) Activated
- b) Deactivated

This property is only available for Path type sections with programmable stitch fill.



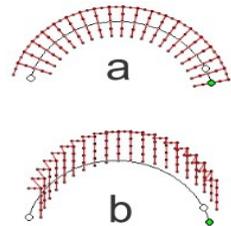
Keep Vertical



It allows you to keep the programmable stitch in its original position, disregarding the path. Observe the configuration for the following figures:

- a) Fit to Path: Yes, Keep Vertical: No (inactive attribute)
- b) Fit to Path: No, Keep Vertical: Yes

As you can see in figure b) the programmable stitches do not follow the path and keep vertical between themselves. This property is only available in Path type sections with programmable stitches that do not fit to path.

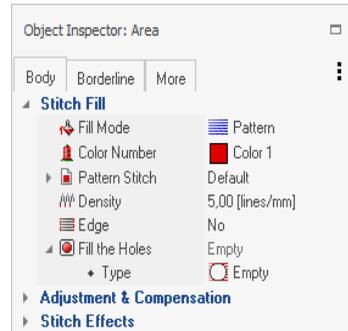


Properties for Pattern fill types

This fill type is frequently used in areas that must be totally covered with stitches. There are two sub-types : Pattern and Elastic Pattern. The former is made of stitches arranged parallel to a unique direction line, while in the last the stitches turn following several direction lines.

The pattern fill works on the basis of pre-designed models called Pattern Components.

Pattern fill mode is available for Column (Elastic sub-type) and Area (both sub-types).



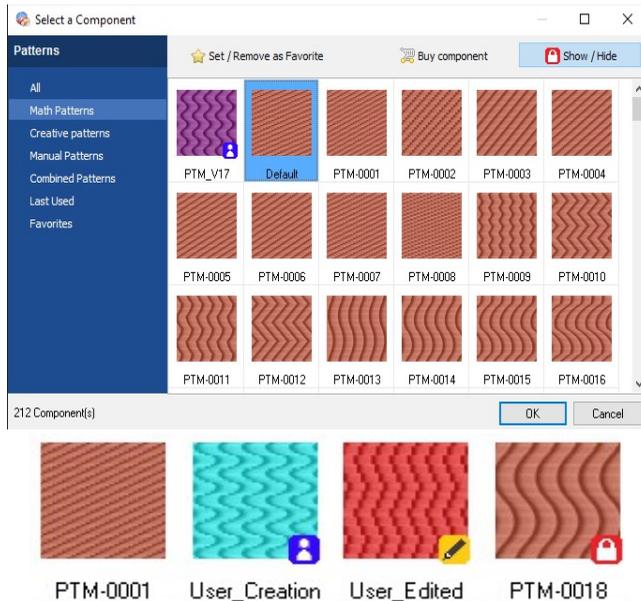
Name

Press the button on the ellipsis button [...] on the right end of the Pattern Stitch to open Pattern Library selection box. Choose any of the available listed fills by double clicking on it.

Note that under “Patterns” you can choose whether you insert a math, creative, manual or combined pattern.

On the Pattern Library you will find four type of components:

- Free_Use: included in your system, for example PTM-0001.
 - User_Creation: those created by you (blue User icon)
 - User_Edited: those Sierra components that have edited by you, made some changes and saved it with another name.
 - Blocked: they are optional components available for purchase (red padlock).
- These work only on your system and cannot be shared (yellow pencil icon).



You can click on the yellow star to create your Favorites library to filter the components, to display just the ones you commonly use.

Edge (Parallel)



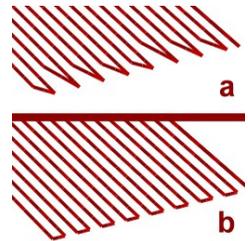
Makes the stitch rows ends take the border shape, instead of finishing in a sharp angle.

This property is also available in pattern fills (available in Column, Area), depending on the level you have installed.

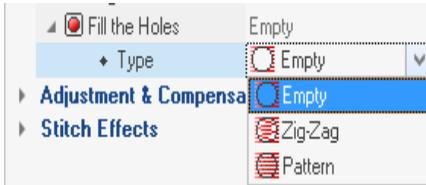
In the examples of the right figure you can see a Column type section with a Longitudinal fill.

Observe the difference in its ends:

- a) Edge Bordering property is set to No
- b) Edge Bordering property is set to Yes



Holes



This attribute may be applied to Area type sections, depending on the type of stitches and their geometric shape.

Even though the holes are empty after being created, you can specify a fill for them, either with Zig-Zag stitches or a Pattern.

Note: The set of Hole properties is only available in some Area sections, and subject to the system level acquired.

This set of properties is available when you select an Area. The properties defined for the holes, will be applied to all the holes in the section.

Type



The hole of a complex area section may be: Empty (1) (in which case the rest of the items belonging to the Hole group are disabled), filled with Zig-Zag stitches (2) or with a pattern (3).

Pattern Name



In the case the hole is filled with a pattern, you must define the name of the pattern selected from the library, pressing the button located on the right side of the box.

Only for pattern Area sections.

Create Border on Holes



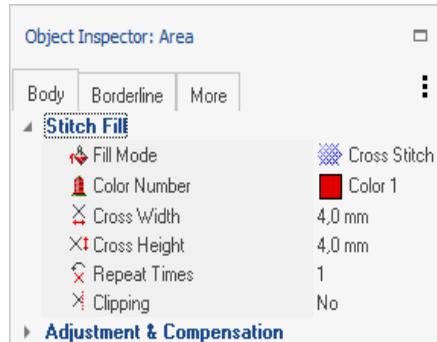
It allows you to specify whether you wish to create stitches on the edges of the holes or not, so as to make them stand out. The options available are Yes or No. You need to add a Border for the main fill to be able to enable this property. It's available on the Borderline tab, inside the Stitch Fill group, on Holes.

Only for pattern Area sections.

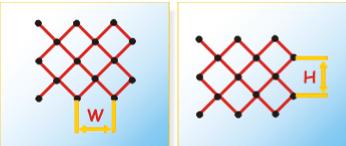
Properties for Cross Stitch fill type

Cross Stitch fill mode consists on a group of X shaped stitches connected by its ends, that cover all the section area.

The Cross Stitch is available just for Area sections.



Width and Height



Normally, cross stitch is used with the same size for the X width and height. Although, you have properties to control both of them independently, setting the width also changes the height, but, setting the height does not modify the width.

This way you can control the overall dimension quickly, keeping the flexibility for setting width and height to different values.

Repeat Times (Repetitions)

This property control how many times each X stitch is sewn. Use a value larger than one to get a thicker, more visible effect.

Clipping

When enabled, stitches are trimmed with the section edges, so all the filling remains inside the section. When disabled, stitches at the edges are placed normally, so some parts of them may fall a little outside the section boundaries.

Properties for Texture fill type

Using textures you can create fills with effects like clouds, grass, wood, sea waves, etc., without needing to digitize the details manually.

Textures fill is based on predefined models called Texture Components.



Texture fill is available for Areas only. The example below shows a section with a multicolored texture (the small stars) and a fill pattern section over it.



Texture Pattern

When you press the button located to the right side of this box, the texture library will open for you to select any available texture to apply to the main fill. Once you have done this, in the main graphic view, Stitch Era will show a new texture inside the Area.

On the Texture Library you will find four type of components:

- Free_Use: included in your system, for example STX-0009.
- User_Creation: those created by you (blue User icon)
- User_Edited: those Sierra components that have edited by you, made some changes and saved it with another name. These work only on your system but cannot be shared (yellow pencil)
- Blocked: they are optional components available for purchase (red padlock).

You can click on the yellow star to create your Favorites library to filter the components, to display just the ones you commonly use.

► Texture Layout

From the Object Inspector you can modify the offset, scale and texture angle, inserting the values in the Texture Layout group boxes.

Horizontal and Vertical Offset: From these controls you adjust (in mm.) the horizontal and vertical texture displacement.

Horizontal and Vertical Scale: From these controls you adjust the horizontal and vertical texture scale.

Angle :Texture rotation angle measured from the horizontal.

▶ **Texture stitches**

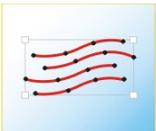
To generate the sections that form the texture, the system uses values according with the following settings:

Use default: If you want to modify the values by default, select the option 'Yes', so you can modify the values of these boxes:

Stitch length: Length to be used in textures running stitches.

Repetitions: Number of repetitions to be used in the running stitches that form the texture.

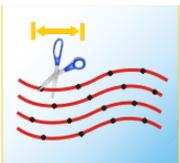
Random edge



It allows you to apply the texture to the object using a slightly random edge instead of using the object's borderline.

It is used to produce a more artistic clipping of the texture along the section's borders.

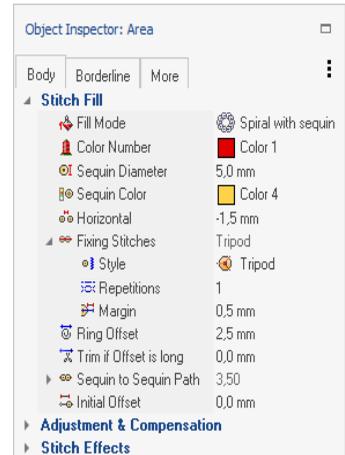
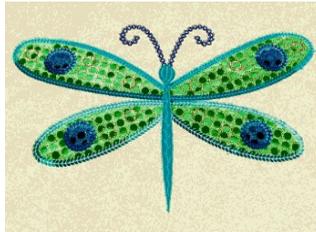
Trim if Offset is long



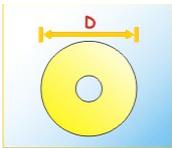
The jump length between texture zones that may force the use of thread cuts. You can add thread cut controls to jump between texture components in order to get a better result. The Trim Length parameter allows you to establish the maximum length between texture components. If this value is exceeded, a trim (thread cut) will be inserted.

Properties for Sequin fill type (Optional Feature)

Sequin is an advanced fill mode with properties that let you control the sequin layout and the method used to lock them. The figures below show a couple of examples of Sequin fill for Paths (left) and Areas (right)



Sequin Diameter



External sequin diameter.

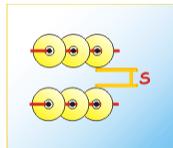
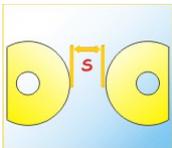
Modify the value of this field to see the change in the sequin's size which will be shown on the main graphic view.

Sequin Color



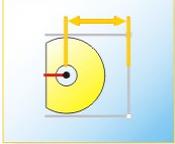
Color used for drawing the sequins in the graphic view. You select it from a drop down list.

Horizontal and vertical spacing



Free space between consecutive sequins, either vertical or horizontal. You can define different values for this field, including negative values. A spacing of 0 places the sequins one next to the other, while a negative value overlaps them.

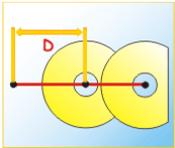
Area margin



This parameter defines the distance between the edge of the section and the sequins. If you increase the value, you place the sequins farther away from the section's ends.

This property appears when you apply this fill to an Area type section.

Initial offset of sequins



Distance, measured from the path's start point where no sequins are fitted.

If you increase this value, you place the first sequin farther away from the edge (beginning) of the section.

Only available for Path sections.

▶ Fixing stitches

Sequin style: Forms the group of stitches to be used to fix the sequins in place. The available stitches are: Tripod, EE, E, Horizontal, Flake, Double Cross and Inverted E.

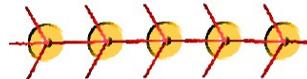
Repetitions: This value defines the number of repetitions of stitches that underlay the sequins.

Sequin Margin: From this field you define a value corresponding to the security margin around the sequin. The application will not place stitches in this margin.

Please note on the right figure section a Path with Sequins with the Spacing property set in 0 and a Margin also set in 0.



In the second figure you can appreciate the same section, but the Margin has been set to 3.



▶ Sequin to sequin path

Maximum stitch length: It is the maximum length that can exist between stitches. It is applied to those stitches involved in the displacements between adjacent sequins.

Repetitions: It allows you to increase the number of stitches applied, it is the number of times the stitches are repeated for each sequin, overlapping one over the other.

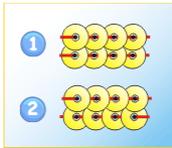
It is similar to the property of identical name available for Running Stitches, but in this case is applied for fastening the sequins.

Sequin device position



It allows you to optimize the process of sequin insertion, when defining the place where the sequin device is regarding the hoop location.

Alternate Placement



When disabled, all sequins are placed following the same direction (1). When enabled, sequin placement is accomplished following a “go and back” sequence (2)

This property is available for Area sections only.

Properties for Multi-Sequin fill type (Optional Feature)



All properties for this fill type are identical to Sequin fill type except for the one that lets you control what sequins are inserted and in what order. When you click on the Sequins item, the Multi-Sequin Setup dialog appears. The box contains two tabs: Sequins and Pattern.

Within the Sequins tab, you may define the multi-sequin device you will use and the sequins loaded on it.

Unfortunately, there isn't a standard control schema for multi-sequin devices, even using the Tajima code (one of the most popular embroidery codes).

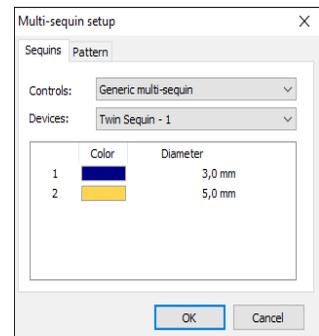
There is a generic control schema, (used by many machine brands) for multi-sequin devices where sequins are arranged in a stack, one over the other, and a Tajima schema, for devices where sequins are arranged side by side.

The Controls drop down list lets you select what type of multi-sequin control schema your machine support.

The Device list lets you select one of them, for example: if you are using (#1 or #2) and how many sequins the device supports (up to 4 sequins per device).

Finally, using the list you may define the sequins loaded in the device (color and size). The number of rows of this list will be adjusted according the number of sequins supported by the device.

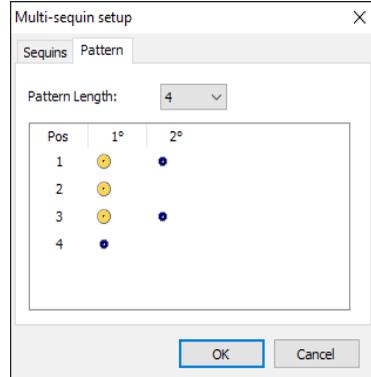
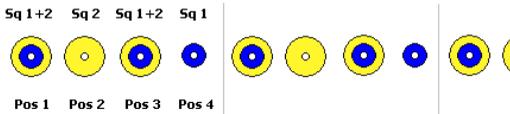
Up to this point, you have select the multi-sequin control schema (as required by your machine), the device you will use and the sequins loaded on it. The next step is to define how sequins should be placed.



Stitch Era allows you to create multi-sequins patterns, that is, sequences of sequins (or combination of them) that will be repeated along the path. The tab Pattern is intended for this.

A multi-sequin pattern may be thought as a sequence of positions. Each position may be occupied by a sequin, or by a combination of them (one over one).

The example below is the result you'll get if you use the settings showed on the right.



More columns will appear if your device is able to handle more sequins (up to 4). More rows will appear if you set the Pattern length to a larger value.

To set a sequin for any given position, just click on the corresponding row and column intersection: Stitch Era will show a list with all available sequins and a blank space.

When selecting more than one sequin for a position, some limitations arise: generic multi-sequin devices allow sequin arrangements following a fixed order (the same order in that the sequins are stacked: for example, sequin 1 over sequin 2 and not sequin 2 over sequin 1).

The Proportional Spacing property, available at Object Inspector, allows you to decide how spacing between sequins is calculated: Considering the largest sequin, so sequin's centers become equally spaced (Proportional spacing Off) or considering the different sequin sizes, so sequin's edges become equally spaced (Proportional spacing On).

Properties for Applique fill type

Applique is a technique which uses a piece of fabric as the base fill of a shape. Then, other details may be sewn over it, producing large area designs with few stitches and with very soft finishing.

Several methods are used to produce designs with applique. Almost all of them requires several steps, with intermediate machine stops to put the fabric, trim it, fix it, etc.

Stitch Era allows you to setup all these steps just assigning the Applique fill mode to the sections and setting its properties according to the applique technique you use.



► Placement Stitches

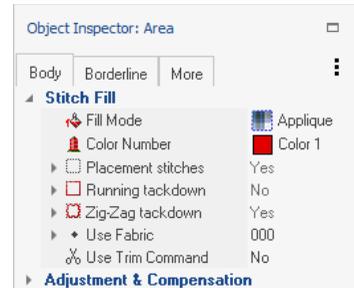
The Placement Stitches are used to indicate, to the machine operator, where the piece of fabric should be placed. It is a reference usually implemented with a simple running stitch. The properties within this group controls its parameters.

Enabled: Enables or disables the usage of Placement Stitches.

Length: Controls the length of the running stitches.

Stitches on Holes: Enables or disables the creation of the applique reference on the hole(s) of the section.

Stop command when finished: Enables or disables the stop control at the end of the step. Usually, the machine should be stopped to allow the operator to place the piece of fabric.



Once the fabric was placed, it should be fixed to the base material. This step is known as Tack-down and two basic methods are used to implement it: a running stitch and a low density zig-zag.

► Running Tackdown

Enabled: Enables or disables the step.

Length: Controls the length of the running stitches.

Offset: Controls the position of the running tack-down, to allow a margin for fabric trimming.

Stitches on Holes: Enables or disables the tack-down for the section hole(s).

Stop command when finished: Enables or disables the stop control at the end of the step. Usually, the machine should be stopped to allow the operator to trim the piece of fabric.

► Zig-Zag Tackdown

Enabled: Enables or disables the Outline ZigZag.

Density: Controls the tack-down zig-zag density

Path Width: Controls the zig-zag width

Offset: Controls the position of the tack-down, to allow a margin for fabric trimming.

Stitches on Holes: Enables or disables the tack-down for the section hole(s).

Stop command when finished: Enables or disables the stop control at the end of the step. Usually, the machine should be stopped to allow the operator to trim the piece of fabric.

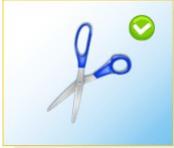
Use Fabric



This property allows you to select a fabric image from the Fabric Library to simulate the applique fabric.

It will be visible when you set your workspace in 3D Mode.

Use Trim Command



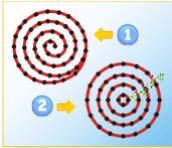
Enables or disables the thread trim insertion. Trims will be used to jump between the main reference and the holes (if any)

Properties for Radial fill type

Basically, this fill consists on a group of concentric paths with running stitches that go around the section in a spiral layout, from the center to the border.



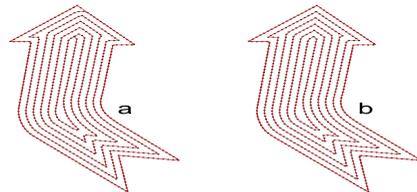
Type



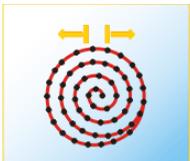
This item shows a drop down list with two possible alternatives: Radial Fill and Concentric. Since the first property is the one by default, the stitches fill the area following a spiral track, while the concentric option causes a fill by layers; a thread cut will be inserted in each level.

In the right figures you can observe in (a) a section with a Radial Fill type (default value) and in figure (b) the same section but with a Concentric type.

Consider that concentric type uses thread cuts in order to complete every fill layer.

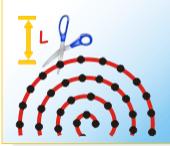


Ring Offset



Spacing value for each of the spiral's laps or each of the layers for the concentric property. The smaller the number entered here, the bigger the density of stitches.

Trim if Offset is Long



This property defines the distance used by the system as the limit for automatic thread trim insertion. When a jump inside the filling is longer than this limit, a thread trim is inserted.

Properties for Chenille fill type (Optional Feature)

This fill mode is designed to be used with embroidery machines that includes chenille heads features. There are two chenille stitch types: Chain (or simply Chenille) and Loop (or Chenille Loop). Stitch Era automatically sets the mode to chain for paths sections and for section borderlines and to Loop mode for area sections.

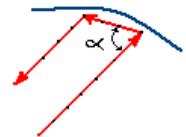


Chain mode is a simple running, with no repetitions. Loop mode is implemented as a rectangular grid with properties to control the grid size. Chenille fill requires changes in the sew direction to be smooth, because abrupt direction changes produce an undesired mode switch between chain and loop. This issue is due to the special shape of the chenille needle. A property called Minimum angle is used to ensure smooth direction changes.

Spacing

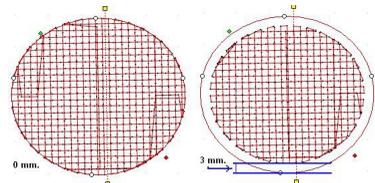
This property controls the rectangular grid size. Smaller values produce more dense filling.

Minimum Angle: Use this property to get smooth fill direction changes. The angle the property refers to is the interior angle shown in the figure at the right. Smaller values means more abrupt direction changes are allowed.



Margin: This property controls the distance between the fill and the section boundary.

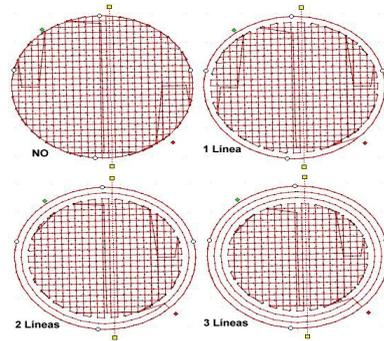
Usually, to get a better finish, the chenille fill ends a couple of millimeters inside the area.



Border Finishing: This property controls the insertion of surrounding fill tracks that enhance the edge finishing of the chenille section.

You can set the property to add up to three lines that will be spaced the same value the main grid is.

The better value largely depends on the chenille thread used, so it is recommended to perform some tests with the machine to define it.



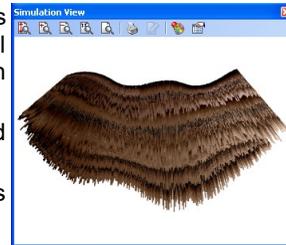
Properties for Fur fill type (Optional Feature)

Fur fill is an advanced, special effect fill mode that simulates animal fur using just one section. Its is based on the creation of fill bands, slightly overlapped, with some random at one or both sides.

This structure and the proper election of colors for each band produces a realistic effect with minimum effort.

Two Fur fill types are available; one based on zig-zag stitches and one based on elastic patterns.

Properties for this fill type are identical to Area zig-zag and Area elastic pattern.



Properties for Macro fill type (Optional Feature)

This fill type is the result of the combination of two structures: one structure creates equally spaced “tracks” and the second one is just a fill type that uses those “tracks” as they were paths. So, depending on the fill type used, we get the different Macro Fills: Running, Zig-Zag, E and Programmable Stitch. Properties in Macro Fill includes a group to control how the “tracks” are created and a group to control the fill type over them.

The picture below shows three examples of Macro Fill, over the same section and with the same parameters for the tracks, but with the three different sub-fills available.

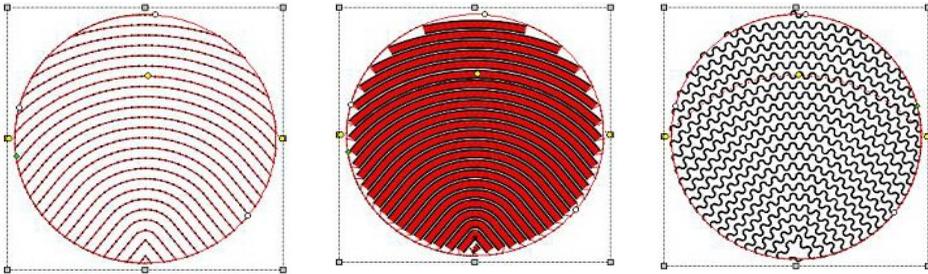
Row Spacing: This property controls the distance between tracks.

Margin: Defines a distance, from the section reference toward its interior, that will be free of stitches.

Max Stitch Length: Sets the maximum stitch length used for the internal connections required for the fill mode.

Toggle Stitch Directions (Alternate Placement): When enabled, fill stitches proceed in both directions, that is, when a row is completed, the next one is generated in the opposite direction.





Internal Connections: Controls the method used to connect the different fill rows. Several options are available: running stitches, thread trims, jumps (with or without lock stitches) and edge walking.

Use Connection From: Sets the distance from which will be used the Internal Connection method selected.

Properties for Auto fill type (Optional Feature)

This fill type automatically detects thin and thick regions inside the section and uses a zig-zag fill mode for the former ones and a pattern fill mode for the last ones.

This way, you will find two main groups of properties: one group to control the zig-zag stitches and other to control the pattern stitches.

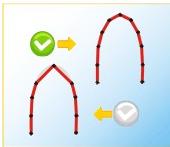
There is an special property, Max Column Width, to set the threshold value for the width classification: regions thicker than this value will be filled with pattern stitches.

Adjustment and Compensations Section

This section contains the properties used to control the compensation tools required for any professionally executed design, like underlay stitches, thread tension pull compensation, short stitches, etc.

Not all compensation strategies apply to all fill modes, so, properties available in this section depend on the fill mode selected in the section Stitch Fill.

Adjust to Curve



When enabled, Stitch Era adjusts the stitch length in order to minimize the difference between the shape described by the section reference and the shape described by the stitches.



Available values are No (disabled), Low, Medium-Low, Medium, Medium-High and High. Consider that a higher setting implies shorter stitches.

This property is available for Running Stitches and Macro Running fill modes only.

Command before Outline



Consists on a Machine control added after the main fill of the sections, but before starting the automatic outline.

The Command before Outline may be used, for example, when you need to fix an appliqué, so as to add a stop after the main fill.

Delete small stitches

When you activate this option the application will filter the small stitches of the section, considering the value entered.

Type: This property controls the filter activation. When set to Auto, the filter is enabled and the minimum stitch length used is the general value set in Options And Preference. When set to Yes, the minimum stitch length used is the specified by its property. Set to No, to disable the filter.

Minimum stitch length: Stitches shorter than this value are automatically deleted. This setting applies when Type property is set to Yes.

This group of properties is available for all fill modes except for Applique.

Corner Compensation



When you activate this control the application will pull the stitches applied to the corners of the section, compensating them automatically. This will allow the optimization of those sections where, due to the geometry of its main reference, the correct finishing of the embroidery is in jeopardy.

This group of properties is available for Zig-Zag stitches and E-stitches, for Paths and Columns.

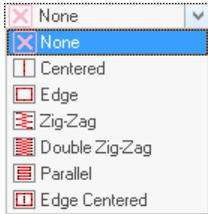
Underlay Stitches Group

In order to tighten the fabric and avoid its deformation when the section is completed with stitches of the main fill, you must perform an Adjustment, also known as Underlay or base stitches.

The purpose of this underlay is to produce stitches that are hidden under the main fill. You should avoid using underlay stitches with low density Stitch fill modes.

This group of properties is available for zig-zag and patterns.

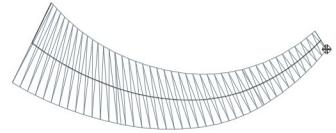
There are several type of underlays available. Each one may be suitable for one determined job or kind of fabric where you embroider. Next we will see the different types of underlay found in the software and a brief explanation of each one.

Underlay Fill mode

Stitch Era offers several alternatives for this feature. This is the most important feature of this group of properties.

Centered Underlay

Generates stitches located on a path over the section's centre. We recommend the use of this underlay when applied to an extremely thin section and you cannot define any other type of underlay.

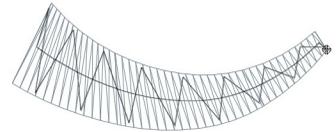
**Underlay in Path by Edge**

Generates stitches located near the border of the area occupied by the section.

Use this underlay only when the type of fabric is tough, and you only need to reinforce (underlay) the borders to get a better definition.

**Zig-Zag Underlay**

Generates Zig-Zag stitches, distributed inside the area. The recommended density is of 15% to 25% of the value used for the main section fill.

**Double Zig-Zag Underlay**

Generates stitches in the shape of two overlapped Zig-Zag. The recommended density is of 15% to 25% of the value used for the main section fill.

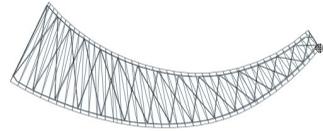
**Parallel Underlay**

Generates parallel lines of stitches, distributed inside the area. The recommended density is of 15% to 25% of the value used for the main section fill.



Edge and Double Zig-Zag Underlay

This mode is a combination of the Path by Edge and Double Zig-Zag underlay modes.



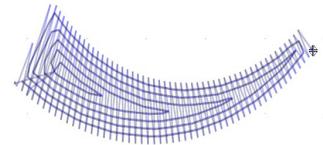
Edge and Parallel Underlay

This mode is a combination of the Path by Edge and Parallel underlay modes.



Radial Fill Underlay

Generates a concentric path that starts from the center and goes to the border following a spiral track.

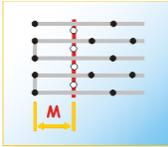


In the following figures we show, as an example, the underlay stitches without the main fill stitches. In the examples, we have highlighted the underlay stitches so that you can recognize them easily.

<p>Centered:</p>	<p>Path by Edge:</p>	<p>Zig-Zag:</p>
<p>Double Zig-Zag:</p>	<p>Parallel:</p>	<p>Double Zig-Zag and Edge:</p>
<p>Parallel and Edge:</p>	<p>Radial Fill:</p>	

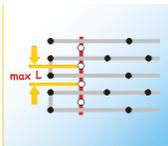
It is important that you take the Margin value in consideration, so that its stitches do not step out of the main fill. Remember that the underlay must be hidden in the embroidery stitches.

Most of the options for all these underlays are similar to the stitch properties available in the Body panel. The properties mentioned here under are the ones that are established as proper for the Underlay.



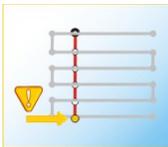
Margin: Space free of underlay in regard to the borderline of the main section.

The lower this value is, the nearer the underlay gets to the edges of the main section. It is not available in the centered underlay.

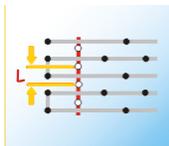


Max Stitch Length: Maximum stitch length of underlay stitches. The application will not perform stitches longer than the specified in this field.

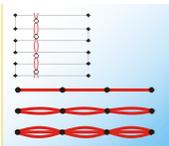
Command After Underlay



Machine command that will be added after the underlay during the generation of stitches. It will be executed before starting the stitches of the main fill. The Command after Underlay can be used to produce a pause in order to fix any application.

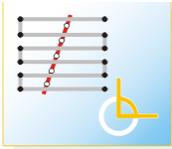


Stitch Length: Length of the underlay or adjustment stitches.



Repetitions: Repetitions of the underlay stitches or running stitch type underlay.

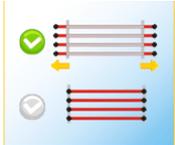
Stitch Length and Repetitions are available for the Running Stitch fill mode.



Angle: Slant angle of the underlay stitch lines regarding the direction of the main fill.

This property is only available for Area sections with Parallel Underlay

► **Pull Compensation Group**

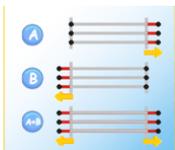
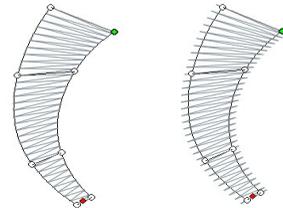


According to several factors, such as the stitch density, the type of fabric, the thread tension, etc., there could be fabric shrinks, causing visible variations in the stitches length.

This group of properties has the purpose of correcting these defects. Basically, pull compensation enlarges the stitches to compensate the shortening produced by thread tension.

See the figures on the right. Note how the section width increases when you apply a Pull Compensation (far right picture). However, due to tension effects the actual width, once the section is sewn, will be closer to the one shown on the left.

This group of properties is available on the following fills: Zig-Zag, E stitch and Pattern fill.



Side: Border in which the stretching is produced. The suggested value is Both.

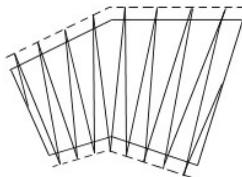
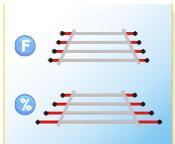
Type

Fixed

The pull compensation due to thread tightening is defined as a fixed value independent of the stitch length.

Proportional

Varies along the stitch or lines of stitches, since it depends of the stitch length.



Value**Value mm - Fixed**

Value (in mm) of the stitches pull for the compensation of the thread tightening.

Value % - Percentage

Value of the stitches pull in percentage of the column width (or stitches length).

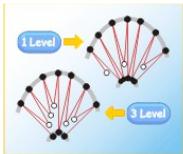
▶ **Short stitches**



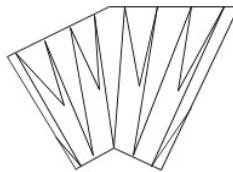
Short or intermediate stitches allow you to compensate the lack and the heaps of stitches. This group of properties is very useful in zones of sharp curves (or differences in lengths) that leave as many spaces without thread as spaces with thread heaps.

Even if the short stitches attributes are activated, they are only executed if the section being worked on really needs it.

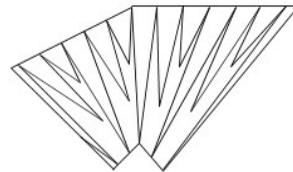
It is available for the following fills: Zig-Zag (in Path, Column and Area sections); Patterns (in Column) and Elastic Patterns (in Area).

Levels

Number of short stitches levels to be introduced when there is a sharp curve in any area of the section.



1 Level



3 Levels

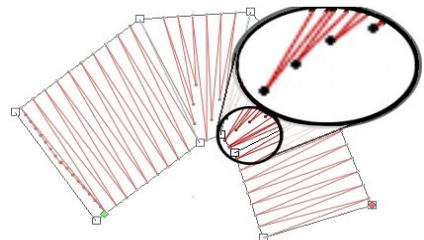
Example: On the following example there is a section configured to have three levels of short stitches. Observe that the values of each of the levels determine the location of the short stitches on the final model.

Level 1: 85%

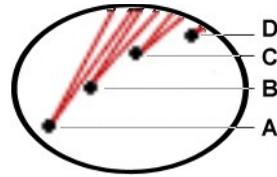
Level 2: 70%

Level 3: 55%

Observe the result of the specified values in the figure. Note how the short stitches only appear in the curve.



- A) Normal stitch
- B) Level 1
- C) Level 2
- D) Level 3



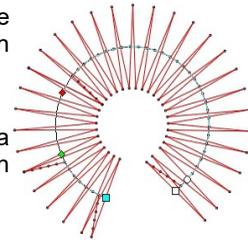
This property works together with the following.



Level value: It is the distance of the short stitches, measured in percentage (based on the normal stitches).

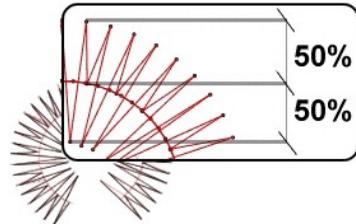
Appear as many Level value boxes as Levels you have specified previously. Specify a percentage for each level in those boxes.

Observe how short stitches and their respective level values are configured for the section shown in the right figure, avoiding stitch overlapping.



The following figure shows a Path type section with a Zig-Zag fill forming a curve. A density of 0.50 line/mm, and a column width of 20 mm has been specified.

When activating short stitches with a configuration of 1 Level to 50%, you get a modification in the way the stitches of the last figure are produced.



Having inserted only one Level with a value of 50%, it produces a short stitch with the 50% of the normal value. In the case of specifying more levels, more short stitches will be produced, of the value specified for each one.

Centered



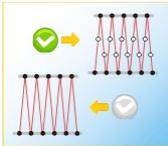
Indicates whether a short stitch will be centered between the last and the next stitch. Otherwise, it will be orientated towards the next stitch.

Trigger at

Percentage corresponding to the difference between edges of a section. As from this value intermediate or short stitches will be applied.

You can vary this value from 0 to 200%. The higher the percentage, the lesser the number of short stitches the figure will have.

▶ **Auto Split Long Stitches**



Divides stitches in several parts (producing more stitches) when the stitch length exceeds the established value.

This feature is available in the following fills: Zig-Zag and E stitch (for Path, Column and Area type sections), depending on the level you have installed.

Type of Auto Split: Division can be made in three ways, also called types:

None: No divisions will be made.

Fixed: Stitches division as from a fixed length. The defined value does not change along the stitches to which it has been applied.

Proportional: Takes, as a parameter to divide the stitch, a percentage of it.

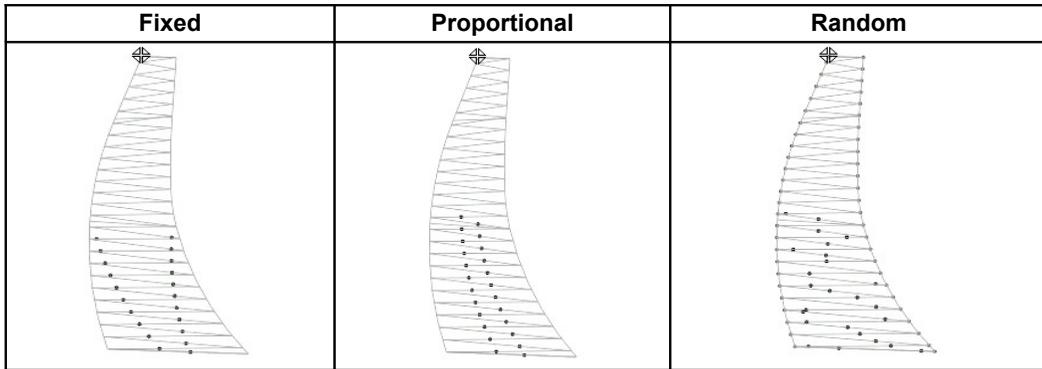
Random: This division type continues respecting the values defined in the Auto Split group of properties, however you can appreciate a random distribution of the stitch divisions.



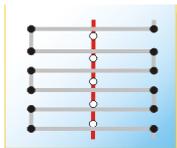
Start splitting at: It is the stitch length as from which it is necessary to split it in parts.

Value: It is the value in mm. that shows where the stitch splits.

Observe in the next figures, an example of each of the different types of stitches division.

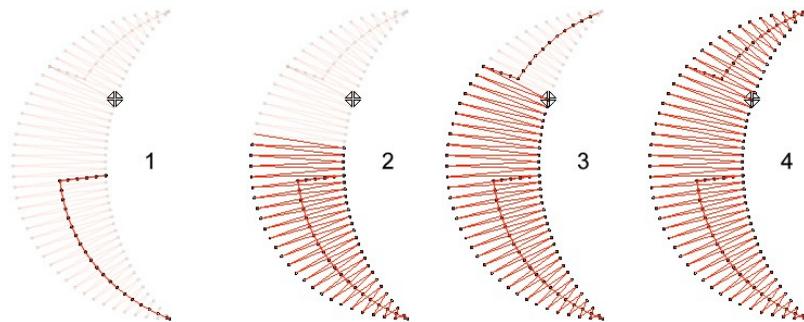
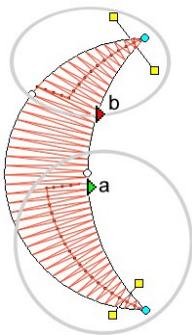


Under path



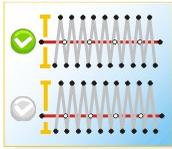
It refers to the internal paths generated by the application. This happens when it is necessary that the needle makes stitches between one area zone and another which is not adjacent; these allow you to join the different areas of the complex figures.

This group of properties is used to define the paths or passes characteristics between zones in the same section. For example, the group of stitches that go from the entry point to the point in which the fill starts is an Under path. These stitches must remain under the fill not to produce undesired effects. Observe hereunder the sequence of an under path:



Activate this property if you want, for example, to create Area type sections with complex geometries but with a low stitch density. In general you will not need to activate this control since the under path is hidden under the main fill. This group of properties is available on the following fills: Zig-Zag, patterns and programmable stitch, depending on the level installed.

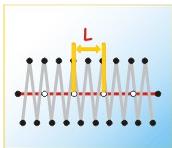
Centered



From here you can define whether there will be a Path in the center of the section or from its edges.

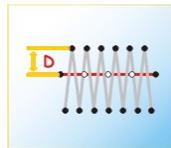
The position of the under path that remains under the fill can be centered (for a normal density) or at certain distance from the edges. This last one is very useful on low density fills in order to reduce the visibility of the Under Path.

When selecting the option No in the Centered box, the Edge Distance box enables. When selecting the Yes option in the Centered box, the Edge Distance box appears in gray, indicating that is disabled.



Stitch length

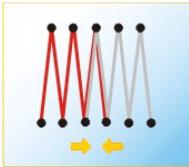
Stitch length of the under path. When increasing this value, the stitches distance apart from each other.



Edge Distance

Distance from the position of the under path stitches to the edge of the section. It defines the margin in which the stitches will be made.

Overlap



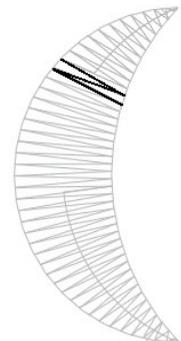
Form this box you define the number of stitch lines that will overlap. This can happen in the sector where different zones of a same section converge (see Under Path). The aim of the overlap of stitches is to avoid having unfilled spaces at the time of embroidering the design.

The value is generally 1 line, but according to the type of fabric to embroider you might have to consider increasing this value.

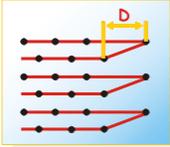
You can specify the correct value of the overlap number, in order not to have stitch free sectors (resulting from, for example, a little fabric offset). The higher the overlapping value is, lesser is the possibility of having gaps in the embroidery.

Observe that in the figure we have specified an overlapping of 3 (the 3 dark stitches)

It is available in the following fills: Zig-Zag and E stitch (available in Path, Column and Area sections) depending on the level installed.



Exclusion margin

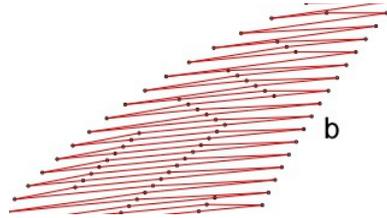
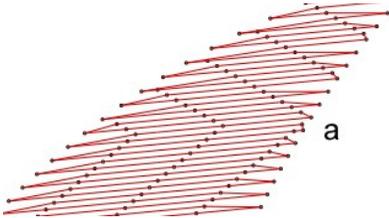


It is the area close to the border free of stitches.

The exclusion margin avoids the little stitches near the edges, since they produce an irregular finishing visible aspect.

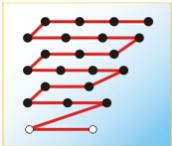
Look at the picture below: an Area section with Uniform Pattern fill. Different exclusion margin values were specified.

- a) Exclusion margin has been set to 0.
- b) Exclusion margin value has been increased.



Available on the following fills: Longitudinal stitch (in Path, Column and Area sections) and Pattern (Column and Area), depending on the system level installed.

Avoid on Small Widths



When the width of the area to fill is smaller than the value specified in this box, the pattern is not carried out. Instead you will get zig zag stitches in these small areas, that will give you a better quality result.

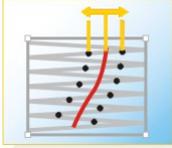
This property is available in the patterns, depending on the system level installed.

Internal Connections

Use this property in order to define the behaviour of the Flexible fill in sections with a complex main reference or with holes. This function determines how the different rows that form a section will merge, or if they are too distant one from the other. The sections with Sequins specify how to move from one sequin to the other when they have a big separation, being the available options: *running stitches*, *thread cuts* or *thread jumps*; while, in Flexible fill sections, the options for this item are *Running Stitches* or *Cuts*.

This option is only available for Sequin type sections and Flexible fills.

Emboss Intercross



The split line compensation for Pattern or Zig-Zag stitches, performs a small displacement in the split line stitches; in this way the stitches split and the result is affected.

This option is available for sections with Pattern and Column with Zig-Zag stitches.

Lock Stitches in Internal Connections



This option is used to decide how to insert a lock stitch in Automatic cuts or color changes. The possible types of lock stitches are: Classic, Star, Twist, Cross and Arrow.



Length: Specify the lock stitch length for Classic type.

Repetition: From this item you define the number of times that the lock stitch repeats.

Stitch Effects Section

From this panel, you may configure the different aspects corresponding to the distortions applied to the stitches.

When the section is a Path section, it will be some extra groups with complementary properties (Beginning, Ending, and Modulation, explained further in this Chapter).

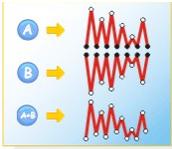


Random Edge



With this option, the effect on the edges of a section is irregular. You can define both the transformation percentage and the side(s) on which the effect will be applied.

This group of properties is not available for the following elements: Longitudinal Path, programmable and longitudinal stitch (either of a Column or an Area), cross stitch, texture, flexible and programmable stitch (Area).



Side

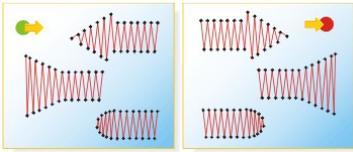
It specifies the side on which this property is applied.



Value

To adjust the width percentage affected by this effect.

**First End Shape
Last End Shape**



The Beginning and Ending groups of properties control the effect used for the beginning or ending of the Path.

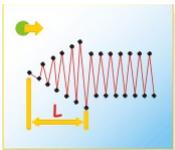
To do so, you must select an effect from the list and determine the length and amplitude of the Path. The properties listed here under are applied both for the Beginning and the Ending effects of the Path.

These groups of properties are available for all the Path type fills, except for the running stitches, sequins and longitudinal fill, depending on the system level you have installed.

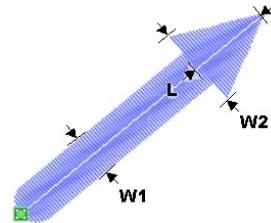
Name

It corresponds to the shape type used in the starting or ending points. Choose any of the options in the drop down menu.

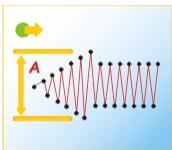
Length



It controls the length marked with an "L" on the left picture. This distance ranges from the beginning of the path through its interior.

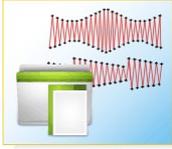


Amplitude

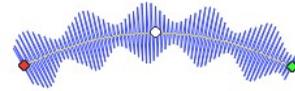


This property is stated as a percentage corresponding to the column width (W1 for the Zig-Zag path in the figure above). A 100% amplitude corresponds to an effect which width (W2) duplicates the column width.

Edge with Modulation

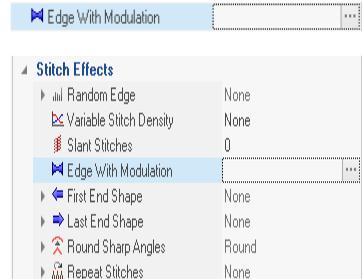


This feature allows you set a geometric criterion, which is applied along the path and affects the Zig-Zag stitch width.



Click on [...] to open the Amplitude Modulation box.

Select the shape of the desired effect from the Library list that appears on the left side of the box (Sin wave, Square wave, Ramp, Triangle, Curve and Globe, etc.).



Set the properties of the effect chosen, through the controls that appear on the right of the Library tab (explained below).

Side:	Both	▼
Direction:	Normal	▼
Symmetry:	Mirror	▼
Amplitude:	50	▲ ▼ %
Repetitions:	5	▲ ▼
Length:	13,0	▲ ▼ mm

Side: This control specifies the side of the Path were the effect will be applied.

Direction: Defines the field as Normal or Reverse, allowing you to establish the direction of the effect (from the first node to the last one and vice versa). The result of this property will only be visible in those effects that do not have a horizontal symmetry, such as Ramps.

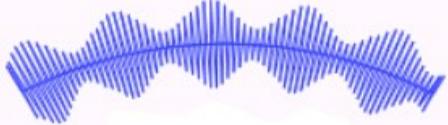
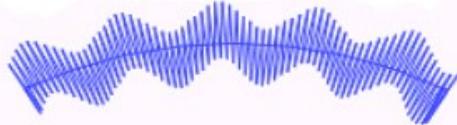
Symmetry: There are two options: Mirror and Parallel. Use this control to specify how the effect is applied to both sides of the Path.

The Mirror option produces a symmetrical modulation while the Parallel produces an identical modulation on both sides

Amplitude: It establishes the modulation size (measured in percentage) of the column width.

Repetitions \ Length: Use these two options to control the scope of the effect on the direction of the path. Define Repetitions for Stitch Era to adjust the scope of the effect in order to present it the specified number of times.

Use Length to define the scope of the effect and let Stitch Era repeat it as many times as possible throughout the path length.

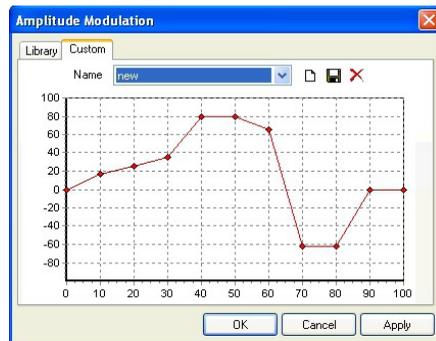
Observe a Path configured with a Mirror Symmetry Modulation:	Observe that same Path with a Parallel Symmetry Modulation:
	

You can combine different types of effects in order to obtain an attractive result.

Customizing the amplitude modulation

You may customize the modulation using the graph on the Custom (User) tab. Use the controls located at the top to Select, Create, Save or Delete a modulation.

By dragging the nodes in the graph you may define the shape of the effect. Consider that the vertical axis is stated in percentage corresponding to the column width, while the horizontal axis is stated in an arbitrary unit. Therefore, if you want the effect to be repeated only once, this will correspond to the path's length.



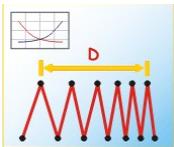
Stitch Angle



This option applies a slant to the Zig-Zag, which produces a similar effect to that of the Z stitches; however, in this new option you can modify the slant angle.

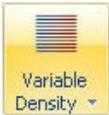
It is available for Zig-Zag stitches and E stitches for Path type sections.

Variable Density

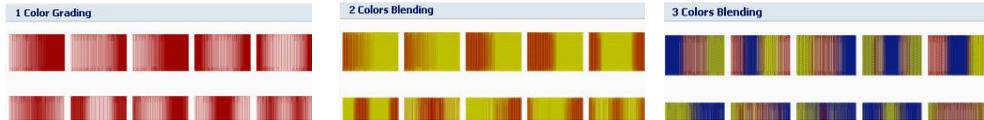


The variable density allows you to define density variation curves in order to obtain different effects, such as: color fades including up to 3 colors (assigning the same section up to 3 fills, overlapped with different density variation pattern and different color)

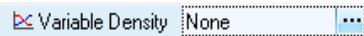
This property is NOT available for the following elements: Path with Running Stitches and Longitudinal stitches, programmable stitch and longitudinal (either Column or Area), cross stitch, texture, flexible and programmable stitch (Area type), depending on the system level.



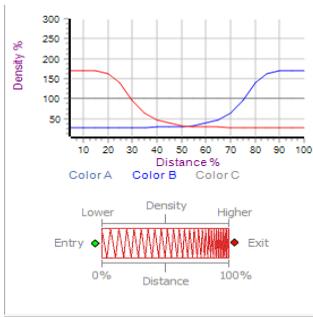
You may also use a predefined variable density style using the button located at the *Stitch Effects* group within the *Body* ribbon (available for objects and fill types supporting variable density). Clicking on the button unfolds a gallery with color blending styles for one, two and three colors.



You may also define your own variable density schemes or modify the existing ones.



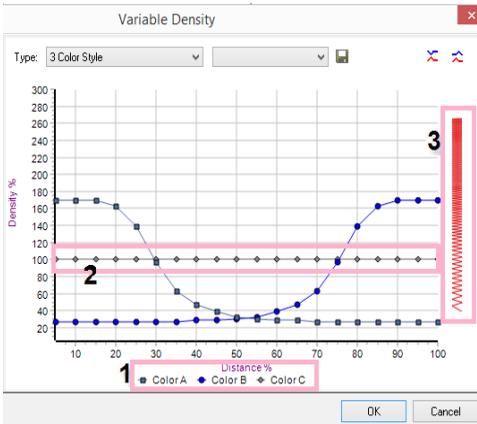
Next to the Variable Density item, you will find an ellipsis button for accessing the density scheme dialogue box in the Object Inspector Panel.



If you have selected a three color blending effect, the Variable Density editor will show a chart with three curves. Each curve represents a density variation for a given color.

The vertical axis indicates density variation in % of the general value you set for the object. 100% means you use the general density, 50% means half of the general density. (see example below).

The horizontal axis represents the length of the object. 0% means the starting of the object and 100% means the ending.



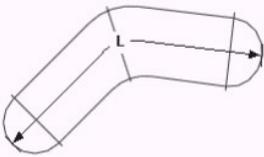
To modify any of the available charts, first select it; then click on Custom. The chart will appear in edition mode, for you to modify it.

Below the chart (1) you will find references to help you identify each curve.

You may drag the dots in the curves (2) to set the density value.

On the right (3) a vertical bar graphically represents the density of stitches.

Once finished, press the disk button to save it. You can load existing schemes from here and save the new ones.



The example on the left shows an area object where the L value represents the section's length as it is used in the density variation charts.

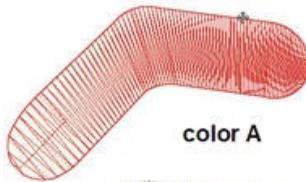
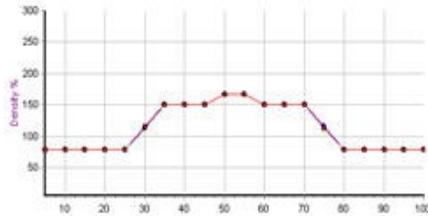
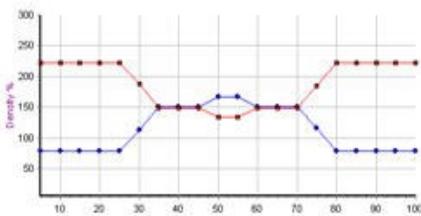


That length is represented by a percentage in the horizontal axis of the density charts, where 0% and 100% are the two ends.

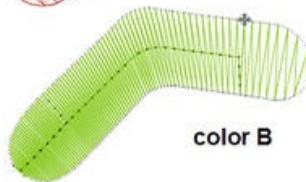
Change the shape of curves Color A and Color B by placing the mouse over the nodes and dragging them vertically to the desired position.



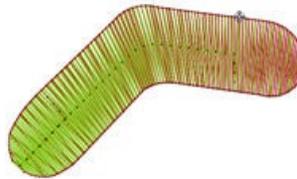
If you need to create mirrored curves, you may use the buttons located at the top-right corner:



color A



color B



Color blending is obtained by overlapping stitch fillings.

The system will generate a separate stitch filling for each color, following the density variation defined for it and will overlap all of them to get the final stitch filling for the object.

Borderline Tab



It produces stitches in the border of the section. It is a way of providing the sections with a better finishing, or applying an embossing to the section's outline.

Most of the properties for the Outline are similar to those of the Path fill.

For further explanation on the borderline properties, refer to section Main Properties of the Path type stitches. These properties are available for the fills of the following sections: Column and Area, depending on the level.

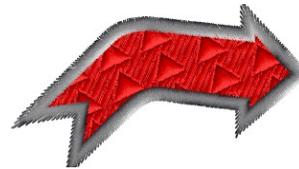
Stitch Fill - Fill Mode

The following figures show a section where automatic borderlines with different fill types have been applied, in order to appreciate the difference between them.

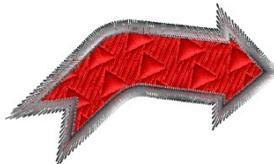
Running



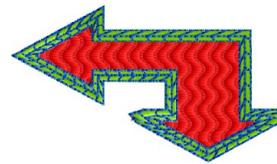
Zig-Zag



E Stitch



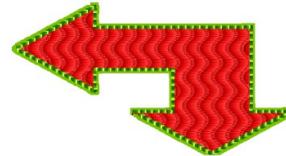
Programmable Stitch



Sequin



Chenille



Consider that you will be able to apply these borderlines according to the system level you have installed in your computer.

The Adjustment & Compensation and Stitch Effects sub-panels are only available for some outline types: Zigzag and E stitch (depending on the system level you have).

Properties are similar to those already explained.

More Tab

This tab contains properties to control functions like lock stitch at entry and exit points.

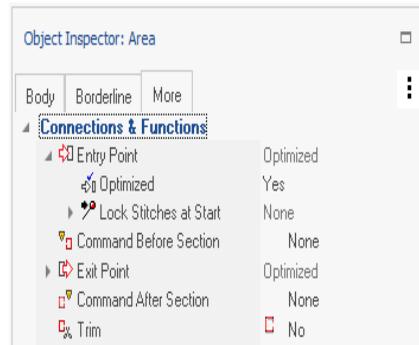
There is one section inside this tab: Connections & Functions.



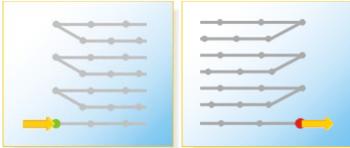
More – Connections & Function sections

From this panel you can modify the properties (layout, optimization, locking, etc.) of both the Entry and Exit points. It also allows you to insert Commands, and thread cuts.

Remember that in some cases, certain values of this panel can be graphically modified from the main window, such as the entry and exit points.



Entry Point / Exit Point

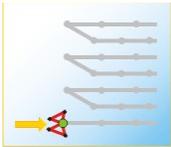


These are the coordinates that correspond to the entry or exit point. From these groups of properties you optimize and/or modify these points.

For example, when an Area section is created, both the entry and exit points must be inserted manually.

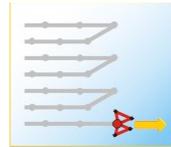
From this option you can control the exact positioning of these points.

Lockstitches



At entry point

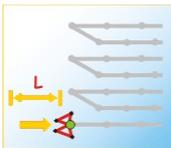
Lock stitch when starting the fill. It can be Classic, Star, Twist, Cross or Arrow types.



At exit point

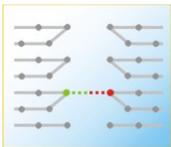
Lock stitch when finishing the fill. It can be Classic, Star, Twist, Cross or Arrow types.

Length of the lock stitch



It corresponds to the stitch length used for the lock stitches, either at the beginning or at the end of the fill. It is only available if the lock stitch option is activated from the previous box.

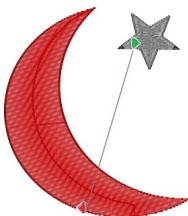
Optimized



This is the point where the stitches generation starts (if an Entry point) or ends (if Exit Point) in the current sections. It makes the thread that joins two sections to do it through the shortest distance.

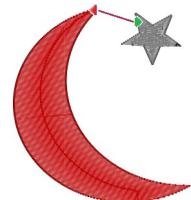
After applying the Optimization (either for the entry or exit point) you will have to activate the Generate All function.

To do so, press Ctrl + F9, or from the Quick Access menu, lightning arrow Reprocess All. This will make the stitches fit the new parameters you have configured.

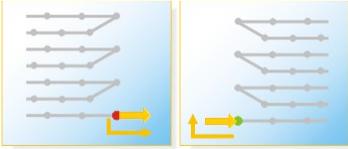


In the examples, look at the difference in the thread jump between the two sections. In the first figure, the entry and exit points were not optimized, while in the second figure, an optimization was applied to both sections.

In order to visualize the thread jump from one section to the other, activate the function Show Connectors.



H / V (Horizontal or Vertical coordinates of Entry and Exit points)



It controls the layout through coordinates X and Y of the entry and exit points, which is measured in decimals of mm.

You may vary any of these points in order to define an exact location for the entry and exit points.

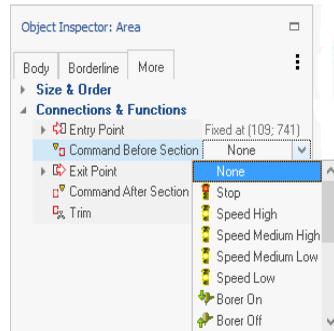
Commands

These commands are frequently used to produce a stop whenever you need to fix an application. For example, you can introduce a machine stop before starting to embroider the main fill to insert an appliqué.

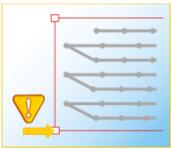
From the drop down lists in the option 'Command Before Section or Command After Section', you have to choose any of the options available:

Stop, Speed (High, Medium High, Medium Low, Low), Borer On or End, Hoop In or Hoop Out, Sequin Start or Sequin End, Sequin, Origin, User.

If you apply any Command that the embroidery machine does not support, it will automatically ignore it.

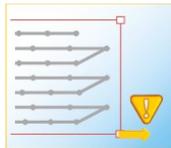


Command Before Section



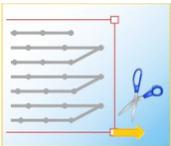
Machine control added before starting the section, during the generation of stitches.

Command After Section



Machine control added at the end of every section, during the generation of stitches.

Trim (at End)



Thread cut machine control, which is added after the selected section.

That is to say, once the fill is finished, the thread cut is performed before starting the next section.

The Object Properties (Detail View)

We have seen that the Object Inspector has two possible visualization configurations: *List View* and *Detail View*.

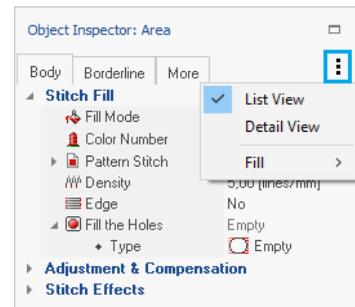
While the *List View* shows a tree list that contains all the settings available organized within tabs, the *Detail View* shows the same settings information but in a more detailed form.

To change from the List View to the Detail View, follow the steps next:

Click on the Object Manager to visualize the Object Inspector.

Click on  to see the available view. Click on *Detail View*.

Being Object Properties strictly contextual, it will display the properties that belong only to the selected object or to the object being created.



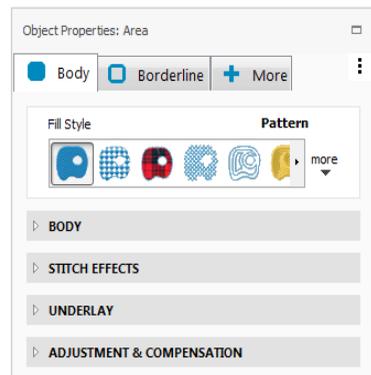
Object Properties organization

The Object Properties organizes all properties within tabs. Depending on the section type, it displays up to three tabs called Body, Borderline and More.

For example: In Area type sections you have the three tabs active, while in path you only have the tabs Body and More.

Each tab also contains a group of sections. Sections can be opened or closed using the arrow icons at the left or clicking the section header.

Inside sections, some properties are single rows with a text label indicating the property name and a representative thumbnail at the left and the value at right; others will have a slider to control the parameter it belongs to; and some will have unchecked checkboxes. They are disabled (closed) until you check their box, which will enable it and display its contents.

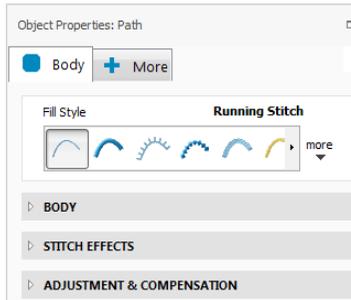


Most of the properties display a hint message, that indicates the values allowed for that property, when leaving the mouse pointer over them for a second.

Body Tab

The body tab contains the properties to control the fill stitches of the main fill of a path, column or area.

Fill Style: Shows the different fill types available with representative thumbnails. You can change between types by clicking on the thumbnail.



Body (Stitch Fill): This section groups the main properties like fill type, color, density, etc.

Stitch Effects: Contains advanced properties to produce stitch effects like random, density modulation, etc.

Adjustment and Compensation: Contains the properties used to control the compensation tools, which are required for achieving a professional design, like underlay stitches, thread tension pull compensation, short stitches, etc.

The following sections describe the properties available, organized by fill mode.

Due to many properties are shared by different modes, not all fill modes are specifically mentioned.

Stitch Fill – General Properties

Fill Style



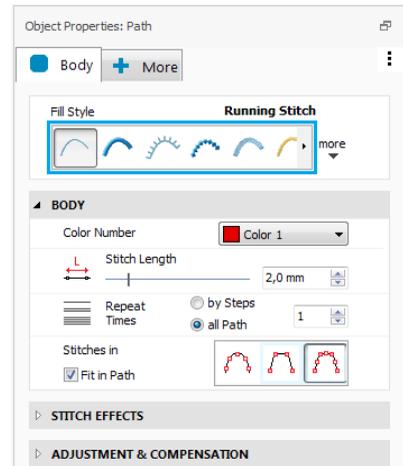
The fill style is the type of stitches chosen for the section.

It can be: Running Stitch, Zig-Zag, E stitch, programmable stitch, longitudinal stitch, patterns, spiral, photo, sequin, texture, flexible, auto fill, appliqué or cross stitch, depending on the section you are working with and on the system level you have installed.

All the other items present in the Object Properties depend on the option defined in this item.

When you change a section's fill mode, you can see how the other properties showed in the Object Properties change too.

Nevertheless, there are some properties that are common to the majority of the different fill modes, like Color and Density.



Color



It refers to the main color of the section. The stitches that form the section's main fill will be created in the selected color. It corresponds to a determined needle number in the embroidery machine. This option is available in practically all fills.

Density



The density shows how many lines of stitches (by length unit) are created during the section processing. The more density a section has, the more stitches it will create and the spacing between them will be less. This property is present in Zig-Zag stitches, E stitches, longitudinal, pattern and flexible fill either on a Path, Column or Area.

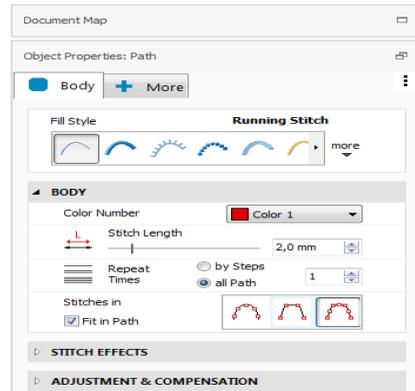
To modify the density value, move the slider, insert the new value in the box or use its arrows.

Properties for Running Stitch fill type

Running stitches are mainly available for Path type sections (and as Borderline fill for columns and areas).

However, many fill types based on running stitches, like Longitudinal, Flexible and Radial fill modes, have almost the same properties.

Anyway running stitch fill mode for path sections have specific properties not available in other modes.



Stitch Length



Gives the distance between consecutive stitch marks (needle perforations). If you enlarge this value, there will be more distance between the stitches. This property is also available for the following fills: Longitudinal (in Path, Column and Area sections), Flexible and Radial (Area sections). Fill type available depends on the product level you acquire.

Repeat Times / Small Steps



It is the minimum amount of overlapped stitches. When a Path has more than one repetition, the running stitch is embroidered and the machine will make running stitches on it, according to the specified value. Repetitions are generally used to enhance the running stitches.

They can be achieved in two different ways:

By Steps: Implies that the stitch by stitch advance is done in the following way: step forward, step back and step forward again. They imply a return stitch (step back stitch).

All Path: The advance is done from beginning to end, repeating all the path backwards and finally forwards.

Stitches in / Fit in Path



It defines where the stitches will be made. The options are (from left to right):

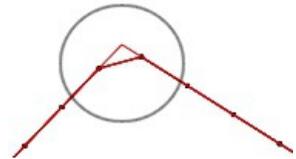
- (1) **Path:** it only respects the traced path
- (2) **Reference:** stitches are generated only on the nodes
- (3) **Path and Reference:** stitches are generated along the path and in the traced nodes.

Fit on Path, makes a regular stitch spacing from one reference to the other, using a similar value to separate them, along the Path.

This property works in the cases where there is an adjustment between references, that is to say, that the 'Stitches in' property was set to 'Path and Reference'.

Selecting the *Reference* or *Path and Reference* option from the 'Stitches in' box, you achieve better finishing, especially in the section's angles. Errors like the one shown on the right figure may be avoided by applying this property correctly.

Observe that the thread does not adjust to the reference node in the angle, resulting in an incorrect corner. This results when setting property on "Path".

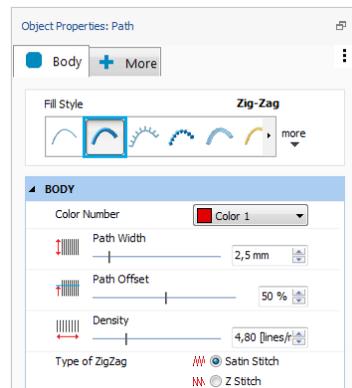


Properties for Zig-Zag Stitch fill types

Even though the properties we will describe are available for Zig-Zag stitch types, they also appear in many other fill types.

Zig-Zag stitches are available in Path, Column and Area sections type fills. Properties already seen available in Zig-Zag stitches: Color and Density.

For this type of stitches the Adjustment & Compensation and Stitch Effects sub-panels are available. They depend of the Body panel.



Path or Column Width



Defines either the stitches column width or the thickness of the path. If you increase this value, by moving the slider or changing the value in the box, the path width enlarges.

This property is also available in the following fills: E stitch, Longitudinal stitch (available in Path, Column and Area type sections), depending on the system level you have installed.

Path Offset



This property defines the location of the fill along its axis: move the slider to vary from 0% to 100% from side A to side B, 50% corresponding to the fill axis.

This property is also used in E stitches and Longitudinal stitches (available in Path, Column and Area type sections), depending on the system level you have installed.

Type of Zigzag



Zig-Zag type fill stitches can be standard (normal) or Z-type, in which stitches are parallel between them and the odd ones produce the forward movement.

This property is exclusive for Zig-Zag type stitches.

Properties for E Stitch fill type

The properties of these stitches are similar to the ones for the Zig-Zag type stitches, except for the Side option available for E stitch.

These stitches are available in Path, Column and Area sections depending on the system level you have installed. Properties already seen available in E stitches types: Color and Density. For this type of stitches the Adjustment & Compensation and Stitch Effects sub-panels are available. They depend of the Body panel.

Type



From this item you can choose where the stitches are placed. You have four alternatives (from left to right):

Side A, Side B: According to the side you choose, the side of the stitches changes.

Side A-B (Both). Stitches are created on both sides of the section, thus resulting in the so called EE stitches (double E).

SW: The layout of stitches is modified, turning them into square type stitches.

Properties for Programmable Stitches fill types

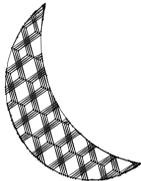
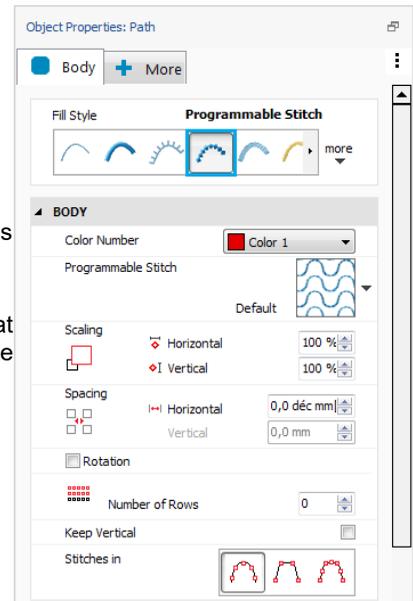


From the Object Inspector you can modify both the pre-designed figures (typical of this type of stitches) and the colors section (up to 4) and a series of variations, such as scales, number of rows, etc.

Programmable stitches fill type is available for Path, Column and Area type sections.

A programmable stitch is formed by a group of stitches, as shown on the previous figure.

When you apply the fill to a section, such stitches will repeat forming figures that are duplicated one beside the other (like a mosaic) until all the section area is covered.



In the left figure observe the result of applying a programmable stitch to a section. The properties of the programmable stitch type of fill vary according to the type of section being edited.

Note that some properties may or may not be available in your system, depending on the product level you have acquired.

Colors



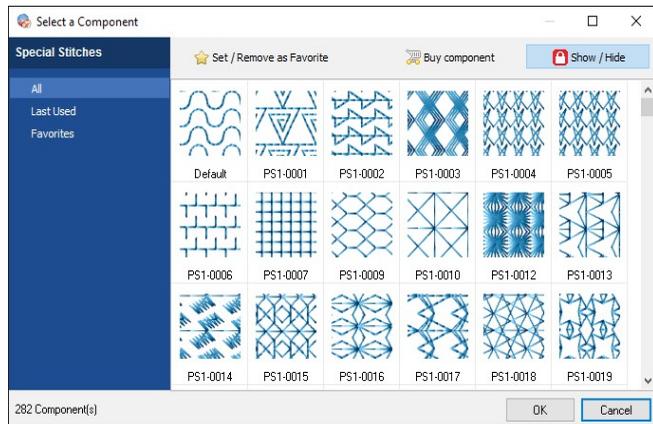
It is the fill color list. The stitches that form the main fill will be generated in the sequence of colors chosen. Colors are associated with needle numbers. Special stitches may have more than one, depending on the special stitch build.

Name



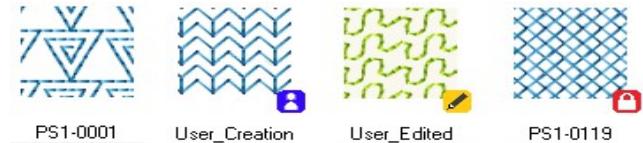
It is the library component with which the fill is made of. If you change the component you achieve different results for the same fill type. To do so, click on the arrow to the right of the Programmable Stitch row.

You will access the window shown on the figure right, where you can choose the programmable stitch from the system library, by double clicking on it.



On the Programmable Stitch Library you will find four type of components:

- a) Free_Use: included in your system, for example PS1-0001.
- b) User_Creation: those created by you (blue User icon)
- c) User_Edited: those Sierra components that have edited by you, made some changes and saved it with another name. These work only on your system and cannot be shared (yellow pencil icon).



- d) Blocked: they are optional components available for purchase (red padlock).

You can click on the yellow star to create your Favorites library to filter the components, and display just the ones you commonly use.

Scale



Change the dimensions of the component on its horizontal and vertical axis.

Suggested value: 100%

Horizontal Offset



Spacing between the horizontal rows that form the fill; varying this value you produce a horizontal offset that displaces the lines produced by the programmable stitch, thus resulting in an effect.

Spacing



Horizontal spacing between consecutive components (for Path and Area type sections).

Vertical spacing between rows (for Area Type sections only).

Rotation



The component will be rotated around the path-line by the angle specified by this property.

Edge Mode (Border)



This property controls the behaviour on the section's edge. There are three options (from left to right):

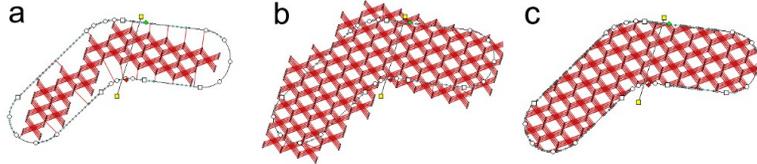
Exclude Border (Inside): The programmable stitches fill the area entirely and are included within the section's limits (sometimes they do not reach the edge).

Include Border (Outside): The programmable stitches fill the area entirely but totally included inside the section, even if they fall outside the area.

Edge (Default): The programmable stitches that fill the area are cut out, according to the borderline of the area.

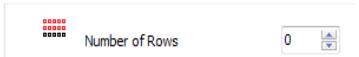
Observe the examples of Edge mode application in the following figures:

- a) Exclude (Inside)
- b) Include (Outside)
- c) Edge



Available in Area sections with programmable stitch, depending on the system level you have installed.

Number of Rows (for Path type sections)



Number of rows of programmable stitches on the path.

Suggested configuration is 0 (automatic). This configuration is available in Path, Column and Area type sections with a programmable stitch fill, depending on the system level you have installed.

If you increase this value, you get the effects shown in the figures:

- a) Path with programmable stitch.
- b) For the same section, we specified a value of 3 rows (the same row is repeated 3 times).



Fit on path (for Path type sections)

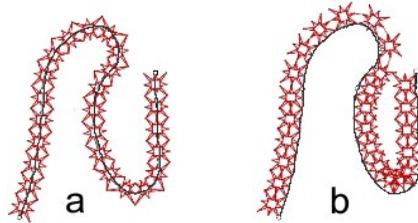


It allows you to fit the programmable stitch on the path, thus presenting a continuity between consecutive programmable stitches, allowing a deformation. If this option is not enabled, the figures formed by the programmable stitch are not deformed.

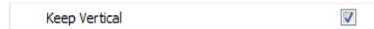
In the figures please observe a same section with the Fit to Path option:

- a) Enabled
- b) Disabled

This property is only available for Path type sections with programmable stitch fill.



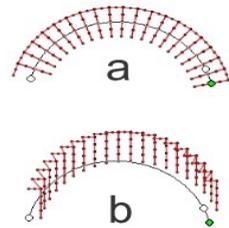
Keep Vertical



It allows you to keep the programmable stitch in its original position, disregarding the path. Observe the configuration for the following figures:

- a) Fit to Path: Enabled, Keep Vertical: Not checked
- b) Fit to Path: Disabled, Keep Vertical: Checked

As you can see in figure b) the programmable stitches do not follow the path and keep vertical between themselves. This property is only available in Path type sections with programmable stitches that do not fit to path.

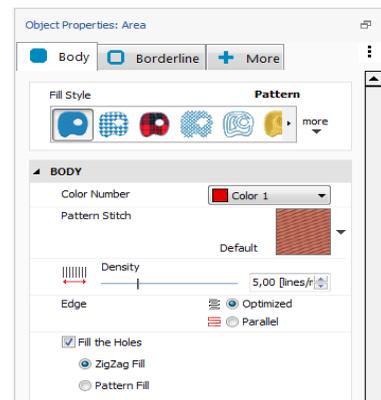


Properties for Pattern fill types

This fill type is frequently used in areas that must be totally covered with stitches. There are two sub-types : Pattern and Elastic Pattern. The former is made of stitches arranged parallel to an unique direction line, while in the last the stitches turn following several direction lines.

The pattern fill works on the basis of pre-designed models called Pattern Components.

Pattern fill mode is available for Column (Elastic sub-type) and Area (both sub-types).



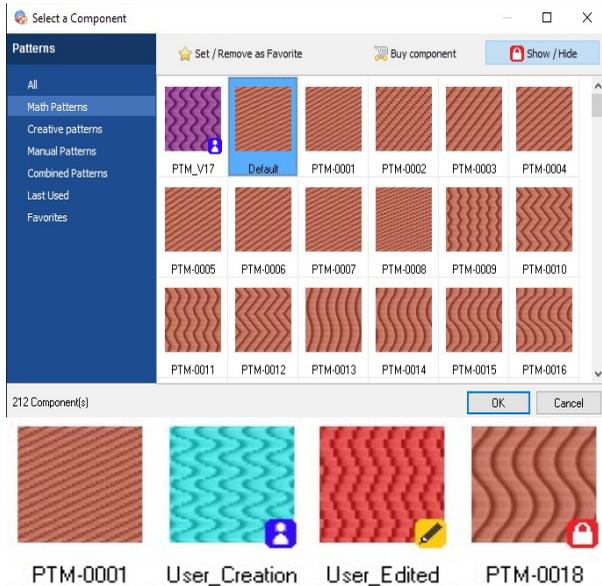
Name

Click on the arrow on the right end of the Pattern Stitch to open Pattern Library selection box. Choose any of the available listed fills by double clicking on it.

Note that under “Patterns” you can choose whether you insert a math, creative, manual or combined pattern.

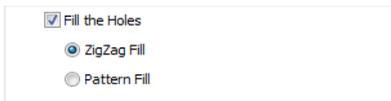
On the Pattern Library you will find four type of components:

- a) Free_Use: included in your system, for example PTM-0001.
- b) User_Creation: those created by you (blue User icon)
- c) User_Edited: those Sierra components that have edited by you, made some changes and saved it with another name. These work only on your system and cannot be shared (yellow pencil icon).
- d) Blocked: they are optional components available for purchase (red padlock).



You can click on the yellow star to create your Favorites library to filter the components, to display just the ones you commonly use.

Holes



This attribute may be applied to Area type sections, depending on the type of stitches and their geometric shape. Even though the holes are empty after being created (property Not checked), you can specify a fill for them, either with Zig-Zag stitches or a Pattern (property checked).

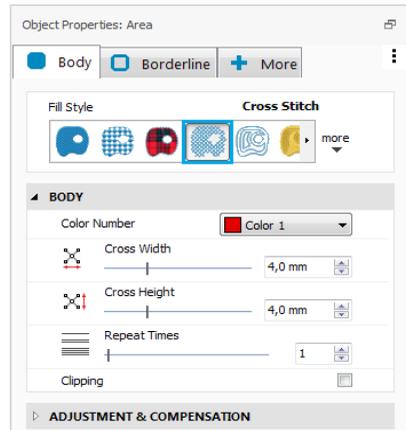
Note: The set of Hole properties is only available in some Area sections, and subject to the system level acquired.

This set of properties is available when you select an Area. The properties defined for the holes, will be applied to all the holes in the section.

Properties for Cross Stitch fill type

Cross Stitch fill mode consists on a group of X shaped stitches connected by its ends, that cover all the section area.

The Cross Stitch is available just for Area sections.



Width and Height



Normally, cross stitch is used with the same size for the X width and height. Although, you have properties to control both of them independently, setting the width also changes the height, but, setting the height does not modify the width.

This way you can control the overall dimension quickly, keeping the flexibility for setting width and height to different values.

Repeat Times (Repetitions)



This property controls how many times each X stitch is sewn. Use a value larger than one to get a thicker, more visible effect.

Clipping



When enabled, stitches are trimmed with the section edges, so all the filling remains inside the section. When disabled, stitches at the edges are placed normally, so some parts of them may fall a little outside the section boundaries.

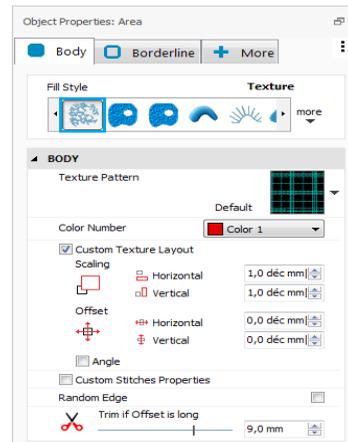
Properties for Texture fill type

Using textures you can create fills with effects like clouds, grass, wood, sea waves, etc., without needing to digitize the details manually.

Textures fill is based on predefined models called Texture Components.



Texture fill is available for Areas only. The example below shows a section with a multicolored texture (the small stars) and a fill pattern section over it.



Texture Pattern

When you press the arrow located to the right side of this box, the texture library will open for you to select any available texture to apply to the main fill. Once you have done this, in the main graphic view, Stitch Era will show a new texture inside the Area.

On the Texture Library you will find four type of components:

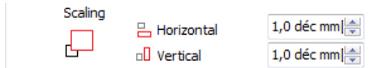
- Free_Use: included in your system, for example STX-0009.
- User_Creation: those created by you (blue User icon)
- User_Edited: those Sierra components that have edited by you, made some changes and saved it with another name. These work only on your system but cannot be shared (yellow pencil)
- Blocked: they are optional components available for purchase (red padlock).

You can click on the yellow star to create your Favorites library to filter the components, to display just the ones you commonly use.

Texture Layout

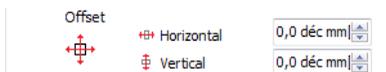
From the Object Properties you can modify the offset, scale and texture angle, inserting the values in the Texture Layout group boxes.

Scale



Change the dimensions of the component on its horizontal and vertical axis.

Horizontal Offset



From these controls you adjust (in mm.) the horizontal and vertical texture displacement.

Angle



Texture rotation angle measured from the horizontal.

► Texture stitches

To generate the sections that form the texture, the system uses values according to the following settings:

Custom Stitches Properties: If you want to modify the values by default, check the option, so you can modify the values of these boxes:

Stitch length



Length to be used in textures running stitches.

Repetitions

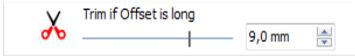


Number of repetitions to be used in the running stitches that form the texture.

Random edge

It allows you to apply the texture to the object using a slightly random edge instead of using the object's borderline. It is used to produce a more artistic clipping of the texture along the section's borders. Check the box to enable it.

Trim if Offset is long



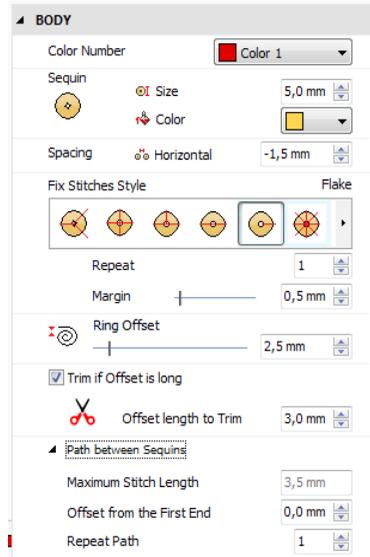
The jump length between texture zones that may force the use of thread cuts. You can add thread cut controls to jump between texture components in order to get a better result.

The Trim Length parameter allows you to establish the maximum length between texture components. If this value is exceeded, a trim (thread cut) will be inserted.

Properties for Sequin fill type (Optional Feature)

Sequin is an advanced fill mode with properties that let you control the sequin layout and the method used to lock them.

The figures below show a couple of examples of Sequin fill for Paths (below left) and Areas (below right)



Sequin Size and Color



Size: External sequin diameter. Modify the value of this field to see the change in the sequin's size which will be shown on the main graphic view.

Color: used for drawing the sequins in the graphic view. You select it from a drop down list.

Horizontal and vertical spacing



Free space between consecutive sequins, either vertical or horizontal. You can define different values for this field, including negative values. A spacing of 0 places the sequins one next to the other, while a negative value overlaps them.

Fixing Stitches



Fix Stitches style: Forms the group of stitches to be used to fix the sequins in place. The available stitches are: Tripod, EE, E, Horizontal, Flake, Double Cross and Inverted E.

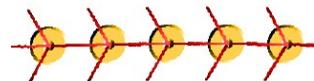
Repeat: This value defines the number of repetitions of stitches that underlay the sequins.

Margin: From this field you define a value corresponding to the security margin around the sequin. The application will not place stitches in this margin.

Please note on the right figure section a Path with Sequins with the Spacing property set in 0 and a Margin also set in 0.



In the second figure you can appreciate the same section, but the Margin has been set to 3.



Initial offset of sequins

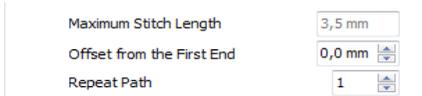


Distance, measured from the path's start point where no sequins are fitted.

If you increase this value, you place the first sequin farther away from the edge (beginning) of the section.

Only available for Path sections.

Path between sequins



Maximum Stitch length: It is the maximum length that can exist between stitches.

It is applied to those stitches involved in the displacements between adjacent sequins.

Offset from the first end: This parameter defines the distance between the edge of the section and the sequins. If you increase the value, you place the sequins farther away from the section's ends.

This property appears when you apply this fill to an Area type section.

Repeat Path: It allows you to increase the number of stitches applied, it is the number of times the stitches are repeated for each sequin, overlapping one over the other.

It is similar to the property of identical name available for Running Stitches, but in this case is applied for fastening the sequins.

Sequin device position



It allows you to optimize the process of sequin insertion, when defining the place where the sequin device is regarding the hoop location.



Toggle Stitch Direction (Alternate Placement)



When unchecked, all sequins are placed following the same direction (1). When checked, sequin placement is accomplished following a “go and back” sequence (2)

This property is available for Area sections only.



Properties for Applique fill type

Applique is a technique which uses a piece of fabric as the base fill of a shape. Then, other details may be sewn over it, producing large area designs with few stitches and with very soft finishing.

Several methods are used to produce designs with applique. Almost all of them requires several steps, with intermediate machine stops to put the fabric, trim it, fix it, etc.

Stitch Era allows you to setup all these steps just assigning the Applique fill mode to the sections and setting its properties according to the applique technique you use.



Placement Stitches

The Placement Stitches are used to indicate, to the machine operator, where the piece of fabric should be placed. It is a reference usually implemented with a simple running stitch. The properties within this group controls its parameters.

Check the box to enable the usage of Placement Stitches.

Length:



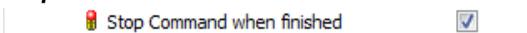
Controls the length of the running stitches.

Stitches on Holes:



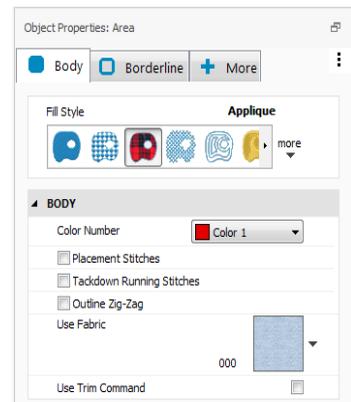
Enables or disables the creation of the applique reference on the hole(s) of the section.

Stop command when finished:



Enables or disables the stop control at the end of the step. Usually, the machine should be stopped to allow the operator to place the piece of fabric.

Once the fabric was placed, it should be fixed to the base material. This step is known as Tack-down and two basic methods are used to implement it: a running stitch and a low density zig-zag.



Running Tackdown

Check the box to enable the usage of running tack-down.

Length: Controls the length of the running stitches.

Offset:



Controls the position of the running tack-down, to allow a margin for fabric trimming.

Stitches on Holes: Enables or disables the tack-down for the section hole(s).

Stop command when finished: Enables or disables the stop control at the end of the step. Usually, the machine should be stopped to allow the operator to trim the piece of fabric.

Outline Zig-Zag

Check the box to enable the usage of an outline tackdown ZigZag.

Density:



Controls the tack-down zig-zag density

Path Width:



Controls the zig-zag width.

Offset:



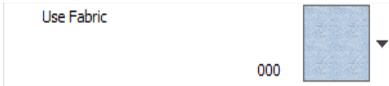
Controls the position of the outline tack-down, to allow a margin for fabric trimming.

Stitches on Holes: Enables or disables the outline tack-down for the section hole(s).

Stop command when finished: Enables or disables the stop control at the end of the step. Usually, the machine should be stopped to allow the operator to trim the piece of fabric.



Use Fabric



This property allows you to select a fabric image from the Fabric Library to simulate the applique fabric. It will be visible when you set your workspace in 3D Mode.

Use Trim Command



Enables or disables the thread trim insertion. Trims will be used to jump between the main reference and the holes (if any).

Properties for Radial fill type

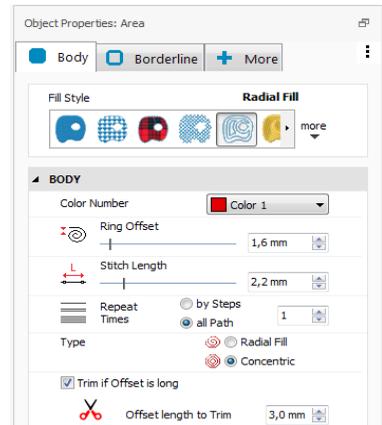
Basically, this fill consists on a group of concentric paths with running stitches that go around the section in a spiral layout, from the center to the border.

Type:



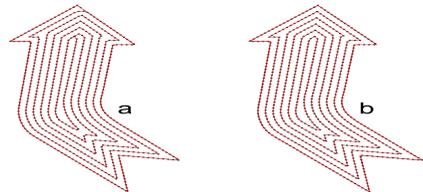
Radial Fill: the stitches fill the area following a spiral track.

Concentric: the stitches fill the area following concentric layers; a thread cut will be inserted in each layer.



In the right figures you can observe in (a) a section with a Radial Fill type and in figure (b) the same section but with a Concentric type.

Consider that concentric type uses thread cuts in order to complete every fill layer.

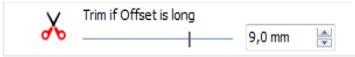


Ring Offset



Spacing value for each of the spiral's laps or each of the layers for the concentric property. The smaller the number entered here, the bigger the density of stitches.

Trim if Offset is long



This property defines the distance used by the system as the limit for automatic thread trim insertion. When a jump inside the filling is longer than this limit, a thread trim is inserted.

Properties for Chenille fill type (Optional Feature)

This fill mode is designed to be used with embroidery machines that includes chenille heads features. There are two chenille stitch types: Chain (or simply Chenille) and Loop (or Chenille Loop).



Stitch Era automatically sets the mode to chain for paths sections and for section borderlines and to Loop mode for area sections.

Chain mode is a simple running, with no repetitions. Loop mode is implemented as a rectangular grid with properties to control the grid size. Chenille fill requires changes in the sew direction to be smooth, because abrupt direction changes produce an undesired mode switch between chain and loop.

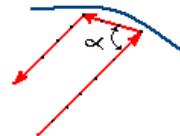
This issue is due to the special shape of the chenille needle. A property called Minimum angle is used to ensure smooth direction changes.

Spacing

This property controls the rectangular grid size. Smaller values produce more dense filling.

Minimum Angle

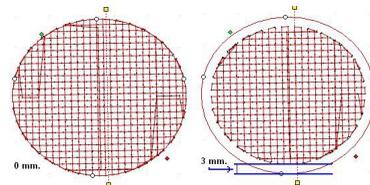
Use this property to get smooth fill direction changes. The angle the property refers to is the interior angle shown in the figure at the right. Smaller values means more abrupt direction changes are allowed.



Margin

This property controls the distance between the fill and the section boundary.

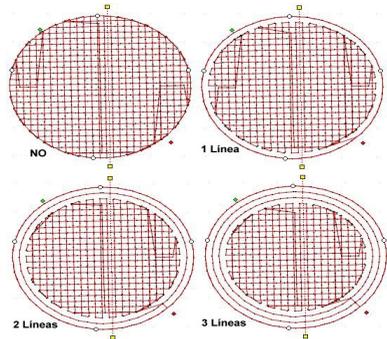
Usually, to get a better finish, the chenille fill ends a couple of millimeters inside the area.



Border Finishing: This property controls the insertion of surrounding fill tracks that enhance the edge finishing of the chenille section.

You can set the property to add up to three lines that will be spaced the same value the main grid is.

The better value largely depends on the chenille thread used, so it is recommended to perform some tests with the machine to define it.

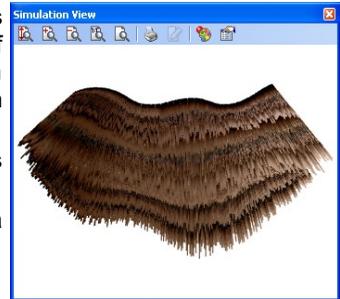


Properties for Fur fill type (Optional Feature)

Fur fill is an advanced, special effect fill mode that simulates animal fur using just one section. Its is based on the creation of fill bands, slightly overlapped, with some random at one or both sides. This structure and the proper election of colors for each band produces a realistic effect with minimum effort.

Two Fur fill types are available; one based on zig-zag stitches and one based on elastic patterns.

Properties for this fill type are identical to Area zig-zag and Area elastic pattern.



Properties for Macro fill type (Optional Feature)

This fill type is the result of the combination of two structures: one structure creates equally spaced “tracks” and the second one is just a fill type that uses those “tracks” as they were paths. So, depending on the fill type used, we get the different Macro Fills: Running, Zig-Zag, E and Programmable Stitch. Properties in Macro Fill includes a group to control how the “tracks” are created and a group to control the fill type over them.

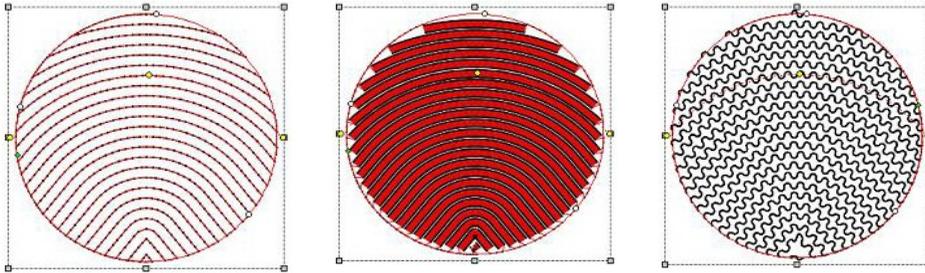
The picture below shows three examples of Macro Fill, over the same section and with the same parameters for the tracks, but with the three different sub-fills available.

Row Spacing: This property controls the distance between tracks.

Margin: Defines a distance, from the section reference toward its interior, that will be free of stitches.

Max Stitch Length: Sets the maximum stitch length used for the internal connections required for the fill mode.

Toggle Stitch Directions (Alternate Placement): When enabled, fill stitches proceed in both directions, that is, when a row is completed, the next one is generated in the opposite direction.



Internal Connections: Controls the method used to connect the different fill rows. Several options are available: running stitches, thread trims, jumps (with or without lock stitches) and edge walking.

Use Connection From: Sets the distance from which will be used the Internal Connection method selected.

Properties for Auto fill type (Optional Feature)

This fill type automatically detects thin and thick regions inside the section and uses a zig-zag fill mode for the former ones and a pattern fill mode for the last ones.

This way, you will find two main groups of properties: one group to control the zig-zag stitches and other to control the pattern stitches.

There is an special property, Max Column Width, to set the threshold value for the width classification: regions thicker than this value will be filled with pattern stitches.

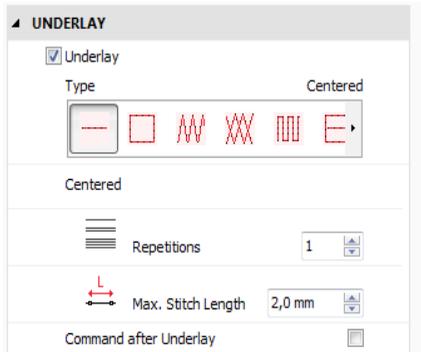
Underlay Section

In order to tighten the fabric and avoid its deformation when the section is completed with stitches of the main fill, you must perform an adjustment, also known as Underlay or base stitches.

The purpose of this underlay is to produce stitches that are hidden under the main fill. You should avoid using underlay stitches with low density Stitch fill modes.

This group of properties is available for zig-zag and patterns.

Underlay Fill mode



There are several type of underlays available. Each one may be suitable for one determined job or kind of fabric where you embroider.

Next we will see the different types of underlay found in the software and a brief explanation of each one.

Stitch Era offers several alternatives for this feature. This is the most important feature of this group of properties.

Centered Underlay

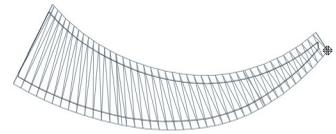
Generates stitches located on a path over the section's centre. We recommend the use of this underlay when applied to an extremely thin section and you cannot define any other type of underlay.



Underlay in Path by Edge

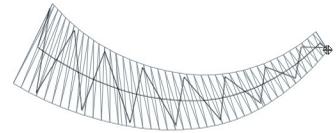
Generates stitches located near the border of the area occupied by the section.

Use this underlay only when the type of fabric is tough, and you only need to reinforce (underlay) the borders to get a better definition.



Zig-Zag Underlay

Generates Zig-Zag stitches, distributed inside the area. The recommended density is of 15% to 25% of the value used for the main section fill.



Double Zig-Zag Underlay

Generates stitches in the shape of two overlapped Zig-Zag. The recommended density is of 15% to 25% of the value used for the main section fill.



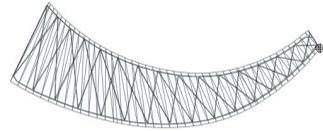
Parallel Underlay

Generates parallel lines of stitches, distributed inside the area. The recommended density is of 15% to 25% of the value used for the main section fill.



Edge and Double Zig-Zag Underlay

This mode is a combination of the Path by Edge and Double Zig-Zag underlay modes.



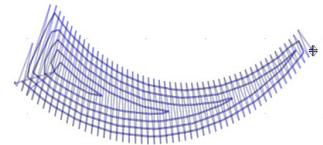
Edge and Parallel Underlay

This mode is a combination of the Path by Edge and Parallel underlay modes.

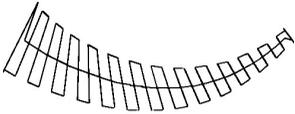
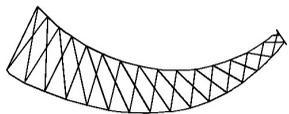
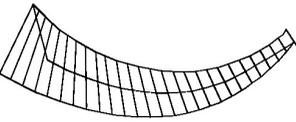


Radial Fill Underlay

Generates a concentric path that starts from the center and goes to the border following a spiral track.



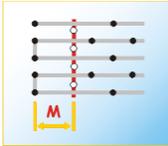
In the following figures we show, as an example, the underlay stitches without the main fill stitches. In the examples, we have highlighted the underlay stitches so that you can recognize them easily.

Centered: 	Path by Edge: 	Zig-Zag: 
Double Zig-Zag: 	Parallel: 	Double Zig-Zag and Edge: 
Parallel and Edge: 	Ray Fill: 	

It is important that you take the Margin value in consideration, so that its stitches do not step out of the main fill. Remember that the underlay must be hidden in the embroidery stitches.

Most of the options for all these underlays are similar to the stitch properties available in the Body panel. The properties mentioned here under are the ones that are established as proper for the Underlay.

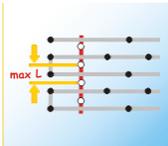
Margin



Space free of underlay in regard to the borderline of the main section.

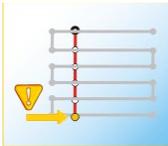
The lower this value is, the nearer the underlay gets to the edges of the main section. It is not available in the centered underlay.

Max Stitch Length



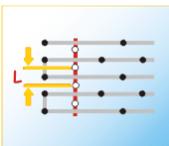
Maximum stitch length of underlay stitches. The application will not perform stitches longer than the specified in this field.

Command After Underlay



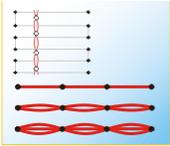
Machine command that will be added after the underlay during the generation of stitches. It will be executed before starting the stitches of the main fill. The Command after Underlay can be used to produce a pause in order to fix any application.

Stitch Length



Length of the underlay or adjustment stitches.

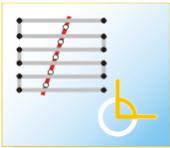
Repetitions



Repetitions of the underlay stitches or running stitch type underlay.

Stitch Length and Repetitions are available for the Running Stitch fill mode.

Angle



Slant angle of the underlay stitch lines regarding the direction of the main fill.

This property is only available for Area sections with Parallel Underlay

Adjustment and Compensations Section

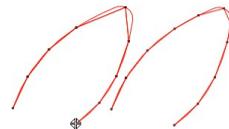
This section contains the properties used to control the compensation tools required for any professionally executed design, like thread tension pull compensation, short stitches, etc.

Not all compensation strategies apply to all fill modes, so, properties available in this section depend on the fill mode selected in the section Stitch Fill .

Adjust to Curve



When enabled, Stitch Era adjusts the stitch length in order to minimize the difference between the shape described by the section reference and the shape described by the stitches.



Available values are No (disabled), Low, Medium-Low, Medium, Medium-High and High. Consider that a higher setting implies shorter stitches.

This property is available for Running Stitches and Macro Running fill modes only.

Command before Outline



Consists on a Machine control added after the main fill of the sections, but before starting the automatic outline.

The Command before Outline may be used, for example, when you need to fix an appliqué, so as to add a stop after the main fill.

Pull Compensation Group

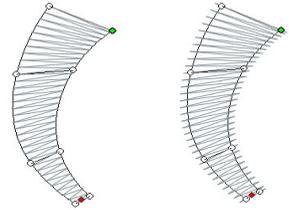


According to several factors, such as the stitch density, the type of fabric, the thread tension, etc., there could be fabric shrinks, causing visible variations in the stitches length.

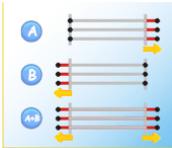
This group of properties has the purpose of correcting these defects. Basically, pull compensation enlarges the stitches to compensate the shortening produced by thread tension.

See the figures on the right. Note how the section width increases when you apply a Pull Compensation (far right picture). However, due to tension effects the actual width, once the section is sewn, will be closer to the one shown on the left.

This group of properties is available on the following fills: Zig-Zag, E stitch and Pattern fill.

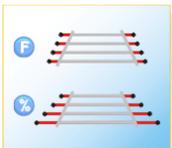


Side



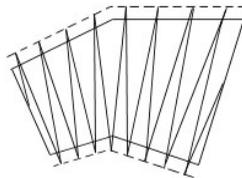
Border in which the stretching is produced. The suggested value is Both.

Type



Fixed

The pull compensation due to thread tightening is defined as a fixed value independent of the stitch length.



Proportional

Varies along the stitch or lines of stitches, since it depends of the stitch length.



Value

Value mm - Fixed

Value (in mm) of the stitches pull for the compensation of the thread tightening.

Value % - Percentage

Value of the stitches pull in percentage of the column width (or stitches length).

Short stitches

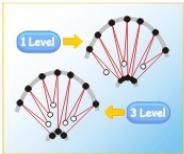


Short or intermediate stitches allow you to compensate the lack and the heaps of stitches. This group of properties is very useful in zones of sharp curves (or differences in lengths) that leave as many spaces without thread as spaces with thread heaps.

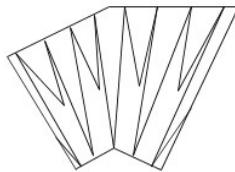
Even if the short stitches attributes are activated, they are only executed if the section being worked on really needs it.

It is available for the following fills: Zig-Zag (in Path, Column and Area sections); Patterns (in Column) and Elastic Patterns (in Area).

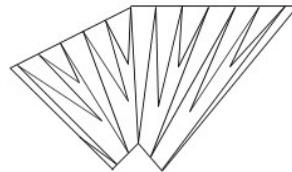
Levels



Number of short stitches levels to be introduced when there is a sharp curve in any area of the section.



1 Level



3 Levels

Example: On the following example there is a section configured to have three levels of short stitches.

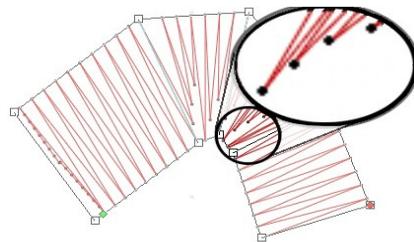
Observe that the values of each of the levels determine the location of the short stitches on the final model.

Level 1: 85%

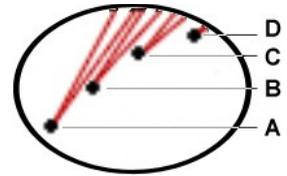
Level 2: 70%

Level 3: 55%

Observe the result of the specified values in the figure. Note how the short stitches only appear in the curve.



- A) Normal stitch
- B) Level 1
- C) Level 2
- D) Level 3



This property works together with the following.

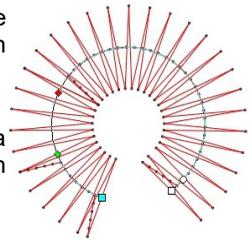
Level value



It is the distance of the short stitches, measured in percentage (based on the normal stitches).

Appear as many Level value boxes as Levels you have specified previously. Specify a percentage for each level in those boxes.

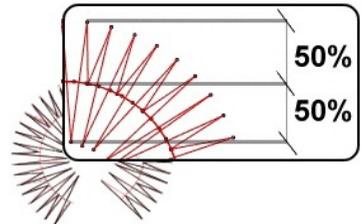
Observe how short stitches and their respective level values are configured for the section shown in the right figure, avoiding stitch overlapping.



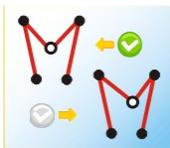
The following figure shows a Path type section with a Zig-Zag fill forming a curve. A density of 0.50 line/mm, and a column width of 20 mm has been specified.

When activating short stitches with a configuration of 1 Level to 50%, you get a modification in the way the stitches of the last figure are produced.

Having inserted only one Level with a value of 50%, it produces a short stitch with the 50% of the normal value. In the case of specifying more levels, more short stitches will be produced, of the value specified for each one.

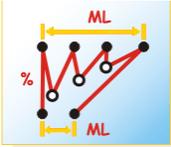


Centered



Indicates whether a short stitch will be centered between the last and the next stitch. Otherwise, it will be orientated towards the next stitch.

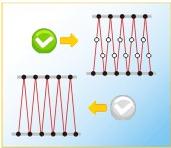
Trigger at



Percentage corresponding to the difference between edges of a section. As from this value intermediate or short stitches will be applied.

You can vary this value from 0 to 200%. The higher the percentage, the lesser the number of short stitches the figure will have.

Auto Split Long Stitches



Divides stitches in several parts (producing more stitches) when the stitch length exceeds the established value.

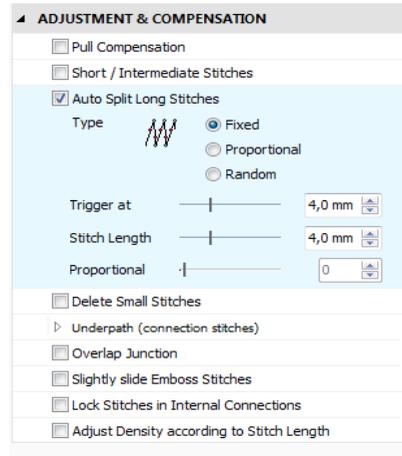
This feature is available in the following fills: Zig-Zag and E stitch (for Path, Column and Area type sections), depending on the level you have installed.

Type of Auto Split: Division can be made in three ways, also called types:

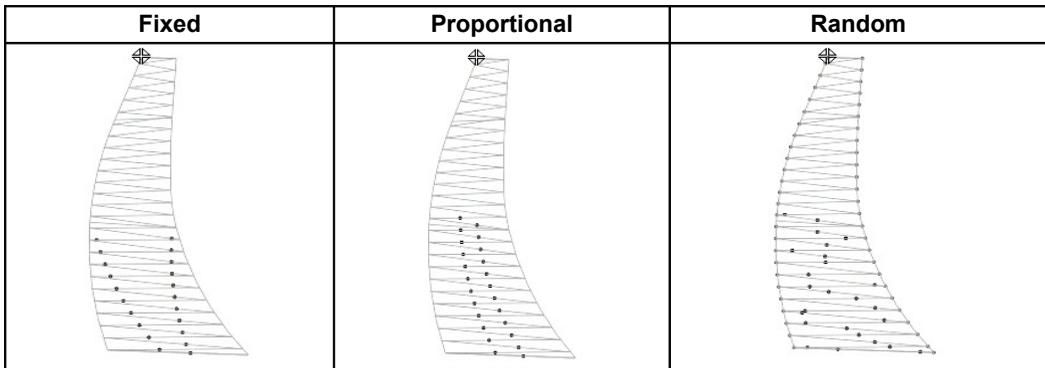
Fixed: Stitches division as from a fixed length. The defined value does not change along the stitches to which it has been applied.

Proportional: Takes, as a parameter to divide the stitch, a percentage of it.

Random: This division type continues respecting the values defined in the Auto Split group of properties, however you can appreciate a random distribution of the stitch divisions.



Observe in the next figures, an example of each of the different types of stitches division.



Trigger at: It is the stitch length as from which it is necessary to split it in parts.

Stitch Length: It is the value in mm. that shows where the stitch splits.

Proportional: It is the value in % that shows where the stitch splits.

Corner Compensation



When you activate this control the application will pull the stitches applied to the corners of the section, compensating them automatically. This will allow the optimization of those sections where, due to the geometry of its main reference, the correct finishing of the embroidery is in jeopardy.

This group of properties is available for Zig-Zag stitches and E-stitches, for Paths and Columns.

Delete small stitches

When you activate this option the application will filter the small stitches of the section, considering the value entered.

Type: This property controls the filter activation. When set to Auto, the filter is enabled and the minimum stitch length used is the general value set in Options And Preference. When set to Yes, the minimum stitch length used is the specified by its property. Set to No, to disable the filter.

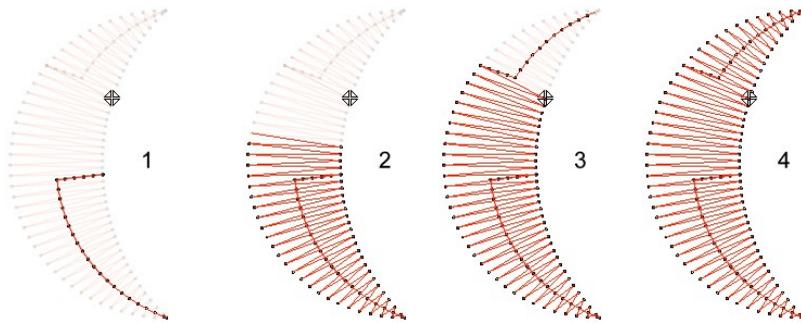
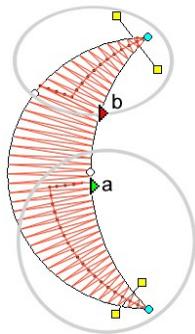
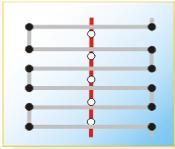
Minimum stitch length: Stitches shorter than this value are automatically deleted. This setting applies when Type property is set to Yes.

This group of properties is available for all fill modes except for Applique.

Under path (connection stitches)

It refers to the internal paths generated by the application. This happens when it is necessary that the needle makes stitches between one area zone and another which is not adjacent; these allow you to join the different areas of the complex figures.

This group of properties is used to define the paths or passes characteristics between zones in the same section. For example, the group of stitches that go from the entry point to the point in which the fill starts is an Under path. These stitches must remain under the fill not to produce undesired effects. Observe hereunder the sequence of an under path:



Activate this property if you want, for example, to create Area type sections with complex geometries but with a low stitch density. In general you will not need to activate this control since the under path is hidden under the main fill. This group of properties is available on the following fills: Zig-Zag, patterns and programmable stitch, depending on the level installed.

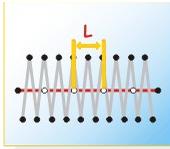
Centered



From here you can define whether there will be a Path in the center of the section or from its edges.

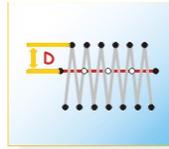
The position of the under path that remains under the fill can be centered (for a normal density) or at certain distance from the edges. This last one is very useful on low density fills in order to reduce the visibility of the Under Path.

When selecting the option No in the Centered box, the Edge Distance box enables. When selecting the Yes option in the Centered box, the Edge Distance box appears in gray, indicating that is disabled.



Stitch length

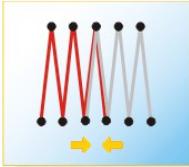
Stitch length of the under path. When increasing this value, the stitches distance apart from each other.



Edge Distance

Distance from the position of the under path stitches to the edge of the section. It defines the margin in which the stitches will be made.

Overlap Junction



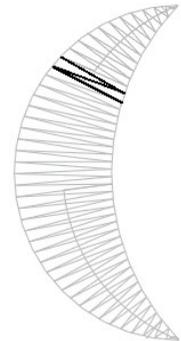
From this box you define the number of stitch lines that will overlap. This can happen in the sector where different zones of a same section converge (see Under Path). The aim of the overlap of stitches is to avoid having unfilled spaces at the time of embroidering the design.

The value is generally 1 line, but according to the type of fabric to embroider you might have to consider increasing this value.

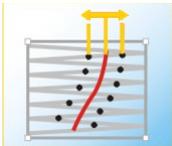
You can specify the correct value of the overlap number, in order not to have stitch free sectors (resulting from, for example, a little fabric offset). The higher the overlapping value is, lesser is the possibility of having gaps in the embroidery.

Observe that in the figure we have specified an overlapping of 3 (the 3 dark stitches)

It is available in the following fills: Zig-Zag and E stitch (available in Path, Column and Area sections) depending on the level installed.



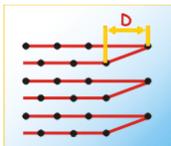
Slightly Slide Emboss Stitches



The split line compensation for Pattern or Zig-Zag stitches, performs a small displacement in the split line stitches; in this way the stitches split and the result is affected.

This option is available for sections with Pattern and Column with Zig-Zag stitches.

Avoid Stitches near the Object Border



It is the area close to the border free of stitches.

The exclusion margin avoids the little stitches near the edges, since they produce an irregular finishing visible aspect.

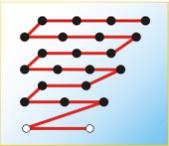
Look at the picture below: an Area section with Uniform Pattern fill. Different exclusion margin values were specified.

- a) Exclusion margin has been set to 0.
- b) Exclusion margin value has been increased.



Available on the following fills: *Longitudinal stitch (in Path, Column and Area sections) and Pattern (Column and Area)*, depending on the system level installed.

Avoid Stitches in Narrow Columns



When the width of the area to fill is smaller than the value specified in this box, the pattern is not carried out. Instead you will get zig zag stitches in these small areas, that will give you a better quality result.

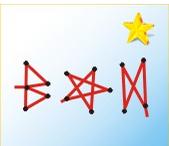
This property is available in the patterns, depending on the system level installed.

Internal Connections

Use this property in order to define the behaviour of the Flexible fill in sections with a complex main reference or with holes. This function determines how the different rows that form a section will merge, or if they are too distant one from the other. The sections with Sequins specify how to move from one sequin to the other when they have a big separation, being the available options: *running stitches*, *thread cuts* or *thread jumps*; while, in Flexible fill sections, the options for this item are *Running Stitches* or *Cuts*.

This option is only available for Sequin type sections and Flexible fills.

Lock Stitches in Internal Connections



This option is used to decide how to insert a lock stitch in Automatic cuts or color changes. The possible types of lock stitches are: Classic, Star, Twist, Cross and Arrow.



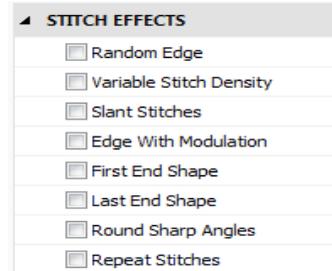
Length: Specify the lock stitch length for Classic type.

Repetition: From this item you define the number of times that the lock stitch repeats.

Stitch Effects Section

From this panel, you may configure the different aspects corresponding to the distortions applied to the stitches.

When the section is a Path section, it will be some extra groups with complementary properties (Beginning, Ending, and Modulation, explained further in this Chapter).

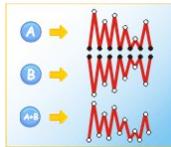


Random Edge



With this option, the effect on the edges of a section is irregular. You can define both the transformation percentage and the side(s) on which the effect will be applied.

This group of properties is not available for the following elements: Longitudinal Path, programmable and longitudinal stitch (either of a Column or an Area), cross stitch, texture, flexible and programmable stitch (Area).



Side

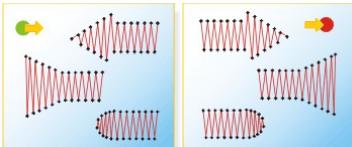
It specifies the side on which this property is applied.



Value

To adjust the width percentage affected by this effect.

First End Shape / Last End Shape



The First End and Last End groups of properties control the effect used for the beginning or ending of the Path.

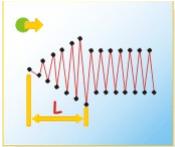
To do so, you must select an effect from the list and determine the length and amplitude of the Path. The properties listed here under are applied both for the First End and Last End of the Path.

These groups of properties are available for all the Path type fills, except for the running stitches, sequins and longitudinal fill, depending on the system level you have installed.

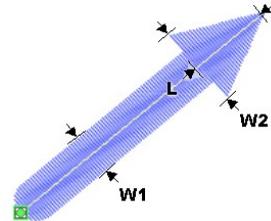
Name

It corresponds to the shape type used in the starting or ending points. Choose any of the options in the drop down menu.

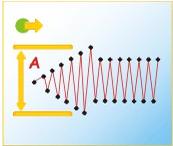
Length



It controls the length marked with an “L” on the left picture. This distance ranges from the beginning of the path through its interior.

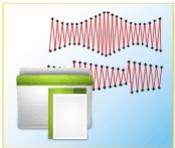


Amplitude

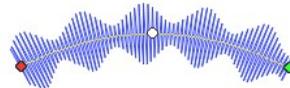


This property is stated as a percentage corresponding to the column width (W1 for the Zig-Zag path in the figure above). A 100% amplitude corresponds to an effect which width (W2) duplicates the column width.

Edge with Modulation



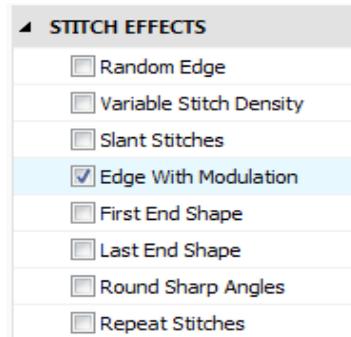
This feature allows you set a geometric criterion, which is applied along the path and affects the Zig-Zag stitch width.



Enable the Edge with Modulation.

The Amplitude Modulation box will open.

Select the shape of the desired effect from the Library list that appears on the left side of the box (Sin wave, Square wave, Ramp, Triangle, Curve and Globe, etc.).



Set the properties of the effect chosen, through the controls that appear on the right of the Library tab (explained below).

Side	<input type="text" value="Both"/>
Direction:	<input type="text" value="Normal"/>
Symmetry:	<input type="text" value="Mirror"/>
Amplitude:	<input type="text" value="50"/> %
<input checked="" type="radio"/> Repetitions:	<input type="text" value="5"/>
<input type="radio"/> Length:	<input type="text" value="13,0"/> mm

Side: This control specifies the side of the Path were the effect will be applied.

Direction: Defines the field as Normal or Reverse, allowing you to establish the direction of the effect (from the first node to the last one and vice versa). The result of this property will only be visible in those effects that do not have a horizontal symmetry, such as Ramps.

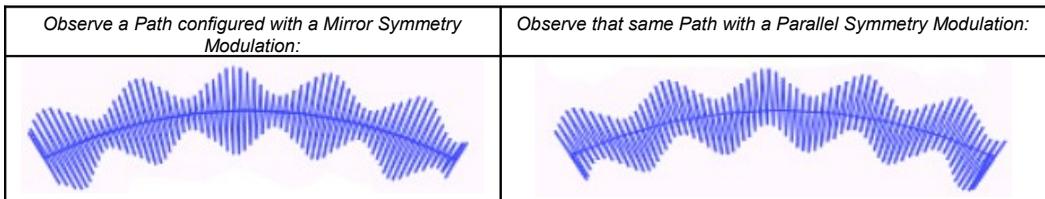
Symmetry: There are two options: Mirror and Parallel. Use this control to specify how the effect is applied to both sides of the Path.

The Mirror option produces a symmetrical modulation while the Parallel produces an identical modulation on both sides

Amplitude: It establishes the modulation size (measured in percentage) of the column width.

Repetitions \ Length: Use these two options to control the scope of the effect on the direction of the path. Define Repetitions for Stitch Era to adjust the scope of the effect in order to present it the specified number of times.

Use Length to define the scope of the effect and let Stitch Era repeat it as many times as possible throughout the path length.



You can combine different types of effects in order to obtain an attractive result.

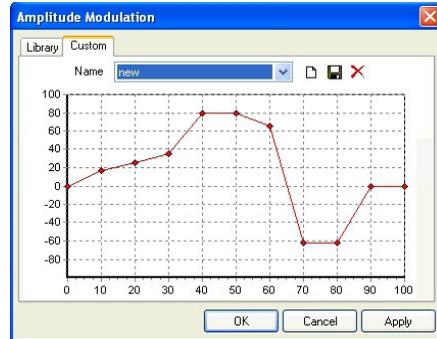
Customizing the amplitude modulation

You may customize the modulation using the graph on the Custom (User) tab. Use the controls located at the top to Select, Create, Save or Delete a modulation.

By dragging the nodes in the graph you may define the shape of the effect.

Consider that the vertical axis is stated in percentage corresponding to the column width, while the horizontal axis is stated in an arbitrary unit.

Therefore, if you want the effect to be repeated only once, this will correspond to the path's length.



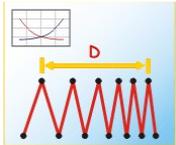
Stitch Angle



This option applies a slant to the Zig-Zag, which produces a similar effect to that of the Z stitches; however, in this new option you can modify the slant angle.

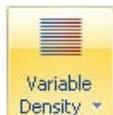
It is available for Zig-Zag stitches and E stitches for Path type sections.

Variable Density

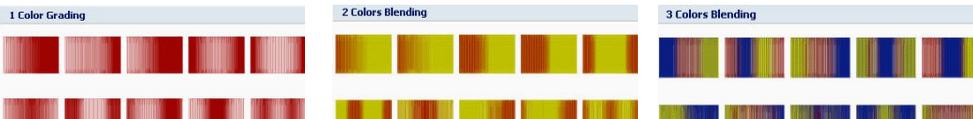


The variable density allows you to define density variation curves in order to obtain different effects, such as: color fades including up to 3 colors (assigning the same section up to 3 fills, overlapped with different density variation pattern and different color)

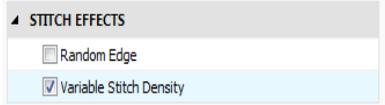
This property is NOT available for the following elements: Path with Running Stitches and Longitudinal stitches, programmable stitch and longitudinal (either Column or Area), cross stitch, texture, flexible and programmable stitch (Area type), depending on the system level.



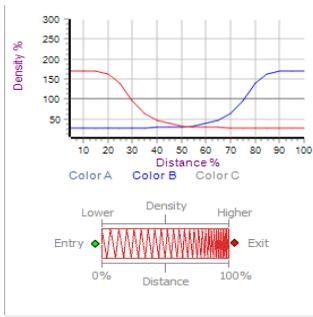
You may also use a predefined variable density style using the button located at the *Stitch Effects* group within the *Body* ribbon (available for objects and fill types supporting variable density). Clicking on the button unfolds a gallery with color blending styles for one, two and three colors.



You may also define your own variable density schemes or modify the existing ones.



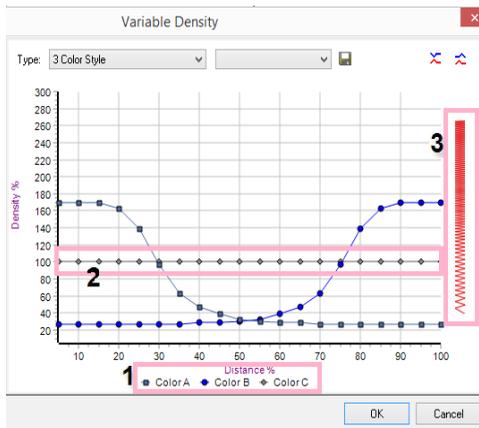
Enabling the Variable Stitch Density item, the density scheme dialogue box will open.



If you have selected a three color blending effect, the Variable Density editor will show a chart with three curves. Each curve represents a density variation for a given color.

The vertical axis indicates density variation in % of the general value you set for the object. 100% means you use the general density, 50% means half of the general density. (see example below).

The horizontal axis represents the length of the object. 0% means the starting of the object and 100% means the ending.



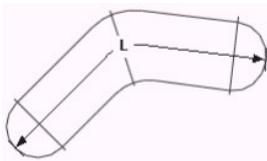
To modify any of the available charts, first select it; then click on Custom. The chart will appear in edition mode, for you to modify it.

Below the chart (1) you will find references to help you identify each curve.

You may drag the dots in the curves (2) to set the density value.

On the right (3) a vertical bar graphically represents the density of stitches.

Once finished, press the disk button to save it. You can load existing schemes from here and save the new ones.



The example on the left shows an area object where the L value represents the section's length as it is used in the density variation charts.

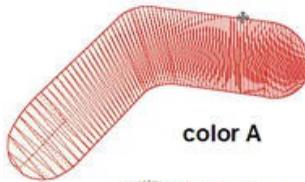
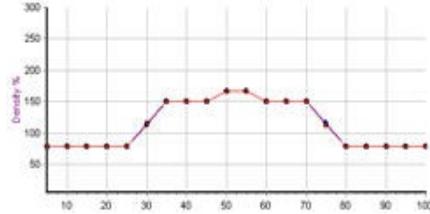
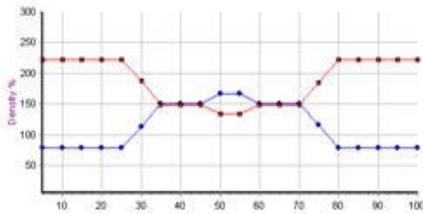


That length is represented by a percentage in the horizontal axis of the density charts, where 0% and 100% are the two ends.

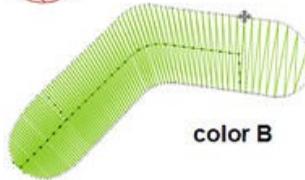
Change the shape of curves Color A and Color B by placing the mouse over the nodes and dragging them vertically to the desired position.



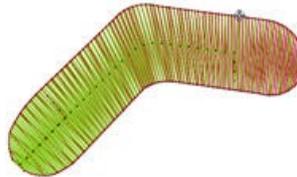
If you need to create mirrored curves, you may use the buttons located at the top-right corner:



color A



color B



Color blending is obtained by overlapping stitch fillings.

The system will generate a separate stitch filling for each color, following the density variation defined for it and will overlap all of them to get the final stitch filling for the object.

Borderline Tab



It produces stitches in the border of the section. It is a way of providing the sections with a better finishing, or applying an embossing to the section's outline.

Most of the properties for the Outline are similar to those of the Path fill.

For further explanation on the borderline properties, refer to section Main Properties of the Path type stitches. These properties are available for the fills of the following sections: Column and Area, depending on the level.

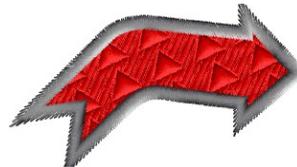
Stitch Fill - Fill Mode

The following figures show a section where automatic borderlines with different fill types have been applied, in order to appreciate the difference between them.

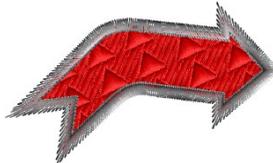
Running



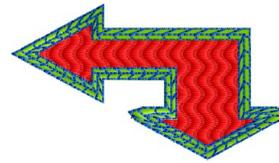
Zig-Zag



E Stitch



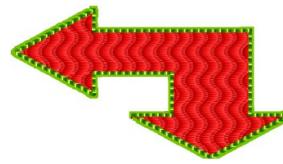
Programmable Stitch



Sequin



Chenille



Consider that you will be able to apply these borderlines according to the system level you have installed in your computer.

The Adjustment & Compensation and Stitch Effects sub-panels are only available for some outline types: Zigzag and E stitch (depending on the system level you have). Properties are similar to those already explained.

More Tab

This tab contains properties to control general features of the sections, like size, order, and some functions like lock stitch at entry and exit points.

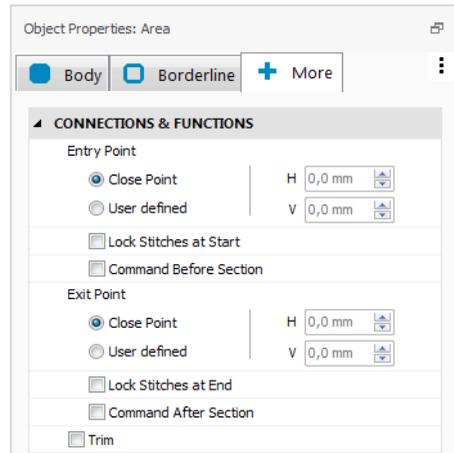
There are two sections inside this tab: Size & Order, and Connections & Functions.



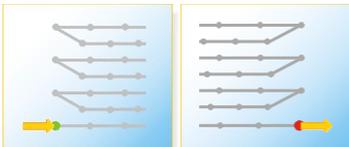
More – Connections & Function sections

From this panel you can modify the properties (layout, optimization, locking, etc.) of both the Entry and Exit points. It also allows you to insert Commands, and thread cuts.

Remember that in some cases, certain values of this panel can be graphically modified from the main window, such as the entry and exit points.



Entry Point / Exit Point

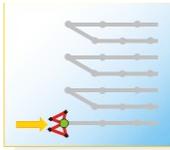


These are the coordinates that correspond to the entry or exit point. From these groups of properties you optimize and/or modify these points.

For example, when an Area section is created, both the entry and exit points must be inserted manually.

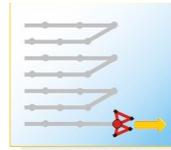
From this option you can control the exact positioning of these points.

Lockstitches



At entry point

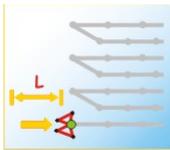
Lock stitch when starting the fill. It can be Classic, Star, Twist, Cross or Arrow types.



At exit point

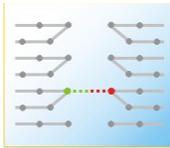
Lock stitch when finishing the fill. It can be Classic, Star, Twist, Cross or Arrow types.

Length of the lock stitch



It corresponds to the stitch length used for the lock stitches, either at the beginning or at the end of the fill. It is only available if the lock stitch option is activated from the previous box.

Closest Point (Optimized)

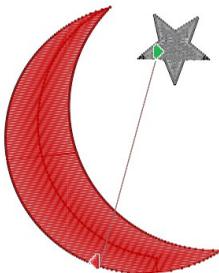


This is the point where the stitches generation starts (if an Entry point) or ends (if Exit Point) in the current sections. It makes the thread that joins two sections to do it through the shortest distance.

After enabling the Closest Point option (either for the entry or exit point) you will have to activate the Generate All function.

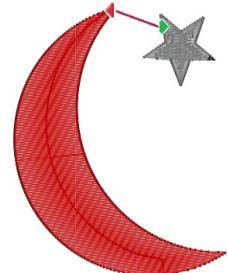
To do so, press Ctrl + F9, or from the Quick Access menu, lightning arrow Reprocess All.

This will make the stitches fit the new parameters you have configured.



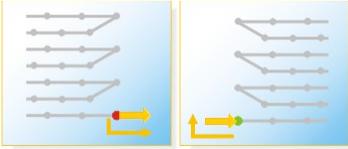
In the examples, look at the difference in the thread jump between the two sections.

In the first figure, the entry and exit points were not optimized, while in the second figure, an optimization was applied to both sections.



In order to visualize the thread jump from one section to the other, activate the function Show Connectors from the *Auxiliar* bar > *Show* group

H / V (Horizontal or Vertical coordinates of Entry and Exit points)



It controls the layout through coordinates X and Y of the entry and exit points, which is measured in decimals of mm.

You may vary any of these points in order to define an exact location for the entry and exit points.

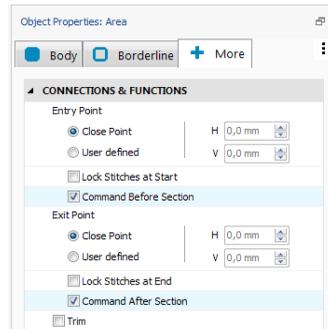
Commands

These commands are frequently used to produce a stop whenever you need to fix an application.

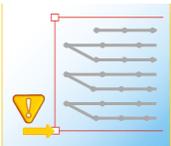
For example, you can introduce a machine stop before starting to embroider the main fill to insert an appliqué.

Enable the option “Command Before Section” or “Command After Section”.

The embroidery machine should stop at this point.

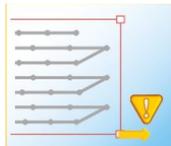


Command Before Section



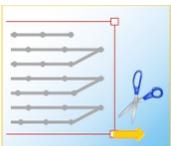
Machine control added before starting the section, during the generation of stitches.

Command After Section



Machine control added at the end of every section, during the generation of stitches.

Trim (at End)



Thread cut machine control, which is added after the selected section.

That is to say, once the fill is finished, the thread cut is performed before starting the next section.

Chapter 10

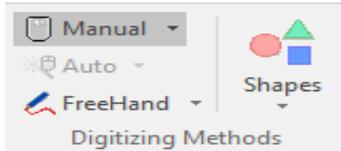
Advanced Digitizing

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Digitizing Methods



The process by which the geometric shape of a section is marked (traced) is called Digitizing. It consists in having a base figure as model, and to get sections that copy the original image.

There are several ways of making this trace:

- Manual
- Auto-trace (assisted method)
- Auto-complete (automatic method)
- Auto-trace Center Path (available just for Path sections)
- With Geometric Shapes

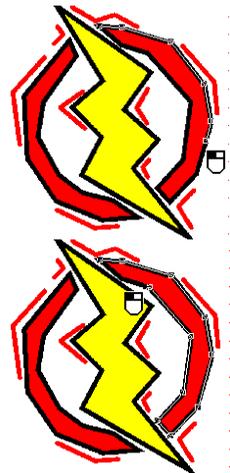
Manual



The manual digitizing is the one in which you insert manually each of the points that represent the outline.

This is done point by point, indicating its properties (straight, curve, corner) by a combination of clicks and the Shift and Control keys. To make a manual trace follow these steps:

- 1) Insert a reference image from the Artwork ribbon.
- 2) From the Embroidery ribbon, select the Creation Tool, for example Uniform Area, and the type of stitch to apply, for example, Area with Pattern.
- 3) Then select the Manual Edition mode, verify that the Manual Digitizing Mode is active (pressed).
- 4) Select the needle color and the predetermined node type.
- 5) Click around the figure's border, with the purpose of creating a section, as the right figures show.
- 6) You may insert the Entry/Exit points, Stitch Directions. Holes, etc., or simply press Enter to generate the stitches.



Remember that both the manual and the automatic trace should be done after indicating the type of section to be created.

Digitizing using Auto Trace



The Auto trace or assisted trace marks the outline that defines the section in one step. It is used generally to create sections from simple outlines.

The system explores the image in the working window and traces on the area it finds under the mouse cursor which color matches with that of the cursor's position.

The assisted trace mode is especially useful when having images with pure colors, with clearly defined outlines. For that reason, even though it is a very convenient mode, it has a limited use. To make an auto trace, follow these steps:



1) Open a new document.

From the Artwork ribbon, click on Open Image icon to insert a reference image.



2) From the Embroidery ribbon, click on the Uniform Area button to list the available stitch types that can be used.



3) Click on Area with Pattern.

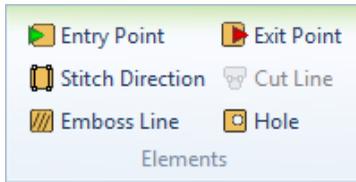


4) From the Digitizing Methods group click on Auto, and then on Autotrace (Assisted trace). Check that the Assisted trace mode is active (pressed).

5) Place the mouse cursor over any point of the area to be traced and make a left mouse click. Then, all the border of the future section appears marked (near right figure).

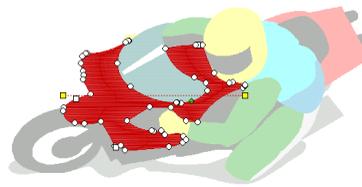
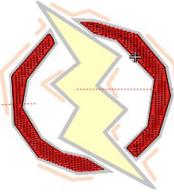
Note that the selection only includes those parts of the image having the same color.





The program awaits your decision to insert the elements: Entry and Exit point, Stitch Directions. Holes, etc. You may also press Enter and let the system to add the remaining elements.

6) Press Enter to confirm the trace.



Digitizing using the Auto-Complete Mode



From the Digitizing Methods group click on Auto, and then on Auto Complete (automatic method). Check that the Auto Complete trace (magic wand) mode is active (pressed).

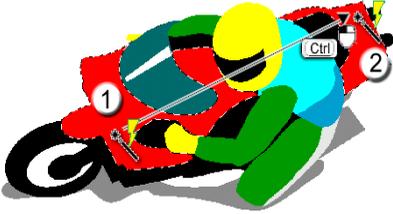
This tool allows you to create a section from an image file, automatically and without taking care of the capture details. The big difference between the Auto Trace mode and the Auto Complete Trace mode is that the latter allows a more complex processing of the created traces. Sections created can be filled with Zig-zag, Fill or other Stitch Types.

To get good results, the images used need to have certain attributes that are very important factors. The next considerations will help you prepare your images adequately for getting the desired results.

- The system will recognize areas with pure colors only. Avoid images that have color gradation and mix of colors.
- Images with well-defined shapes and borders work best.
- Avoid having small areas.
- *Stitch Era* might show some error messages if the image is not adequate for using this trace method. In this case, correct the image and try again.

Follow the steps shown below to operate with this tool:

1) From the Artwork ribbon, insert an image and from the Embroidery ribbon, select the desired creation tool and stitch type. From Digitizing method select the *auto complete* method (magic wand with bolt).

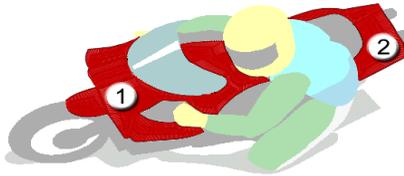


2) Place the cursor (with the shape of a magic wand and bolt) where you wish to do the tracing. Then, click on it to perform the dragging of the area in order to find out if it corresponds to the desired shape of the section.

On the left figure, observe that when you click on the area marked as (1) the tracing of the outline is performed.

3) To trace another area (with the same fill), press the Ctrl key and click on the chosen area for the second section (zone 2).

4) Press the Enter key to confirm and generate the stitches. The traced areas will be filled with the type of stitch chosen.



The result will be similar to the one shown in the figure above right. Note that both sections correspond to those areas of the graphic that have the same color and that were also traced.

In the following example, we will perform a tracing on the crystal ball in the next figure so we obtain a section with four holes in it. Two will correspond to the white and light blue reflections in the original image; an the other two, to the blue lightning bolts.



1) On the left figure observe that with the Auto Complete mode, a tracing was made by clicking on the surface of the crystal ball.

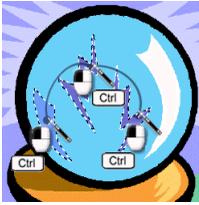
Note that the selection is made with a unique color, while there are four "holes" in it. Press Enter to finish the section and get crystal ball with the 4 holes in it.

In this part of the tracing you may use the keyboard's up and down arrows for enlarging or reducing the outline.



2) Press Enter to finish the creation and generate the stitches by pressing the F9 key.

In the left figure you can observe the result, note that the section created contains four empty holes.



3) You may repeat the operation but this time, clicking over the three of the four holes while the Ctrl key remained pressed. In this way, the three holes will be filled with the selected stitch.

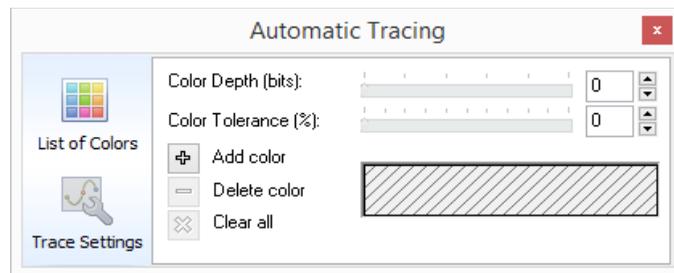
Finally, the creation is confirmed by pressing the Enter key, and generating the stitches with the F9 key.



In the left figure you can observe the result, note that the section created contains an empty hole that corresponds to the white area in the ball. The other three have been recognized and filled up with stitches.

Automatic Tracing box

The automatic tracing box appears both in the Auto-trace mode or the Auto-complete mode, after inserting an image and selecting any stitch type. This is an useful tool to create sections starting from the different colors of the image.



The different options that this tool has, are listed below:

List of Colors mode:

Color tolerance: It produces a recognition of the colors on the list and also of those within the tolerance value. In that way it detects the indicated colors and others that are close to them.

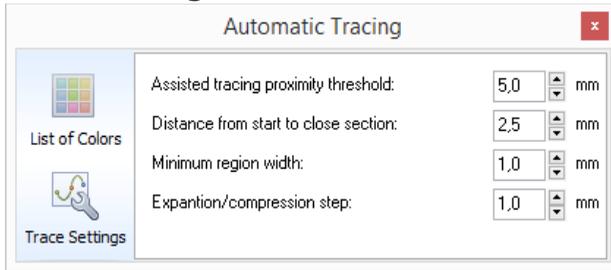
Color depth: The less the feasible colors to detect (being its minimum value the left corner of the slider), the faster will be the tracing process.

List of Colors: Are the colors that will be used to scan and identify the path:

-  Allows to add more colors to the list.
-  Allows to remove colors from the list.
-  Removes all colors from the list.

The colors of the list are persistent, that is, when starting a new section, the color list still contains the same colors, speeding up the identification when you need to scan a new zone with similar colors.

Trace Settings mode:



Assisted tracing proximity threshold: Is the distance from the cursor to the scanned path to be followed. During the automatic trace mode, the trace will progress following a scanned path when the cursor's distance to such path is less to the indicated here.

Distance from start to close section: Distance from the last position of the cursor to the initial position so as to close automatically. When the trace gets close to the initial position up to a distance less than the one indicated here, the path will automatically close the area.

Minimum region width: It is the approximate minimum length value that the tracing zone may have.

Expansion/ Compression step: Allows you to vary the transformation factor applied to a contour recognition. Remember that this factor is activated while performing a scan and modifying the contour with the up and down arrows.

Examples of operation

Tracing single color outlines

Allows you to define the color(s) that the section to create will have. Follow these steps:

- 1) Insert an image and select the desired stitch type. If the Automatic Trace dialogue box appears, drag it away so it does not prevent you from proceeding with the next actions.
- 2) Place the cursor in the area where you will perform the tracing and left click to execute the auto trace.

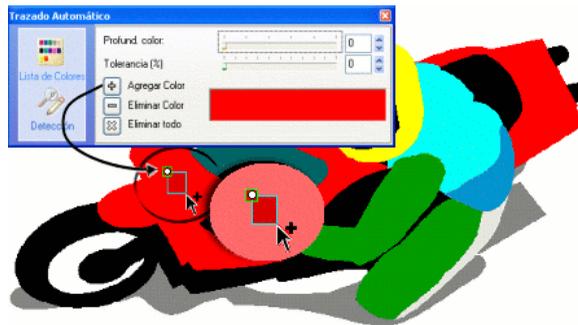


- 3) If you want, open the context menu in order to insert direction lines, define the entry and exit points, add holes, etc.
- 4) Press the Enter key to confirm. The traced area will be filled with the type of stitch chosen.

Identifying tracing colors

When the images do not have pure colors, either because the source is a scanned image or a photograph, it is important that you identify the colors that correspond to the area to trace. The same occurs, whenever you need to trace sections that correspond to areas with a different color (for example, you might probably need to capture the shape of a section from the outline formed by two or more colors of the drawing).

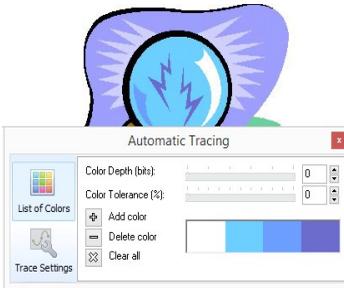
- 1) Insert an image and select the desired stitch type.
- 2) In the Auto Trace box click on the "+" button.
- 3) Drag the cursor until placing it within the area borderline of one of the colors that will define the shape of the section. Once there, make a color selection (by clicking and dragging so as to form a small frame); while doing that, the colors box will remain painted with the selected tone.



- 4) Place the mouse pointer on the outline that has the same color of the chosen one and click to produce the marking of the outline with that tone. You will not be able to carry out a tracing on an area that has a different color to the chosen one.

There may be cases on which you want to capture a geometry that has different colors. You may add all those colors, so that the tracing is carried out considering all the colors you configured.

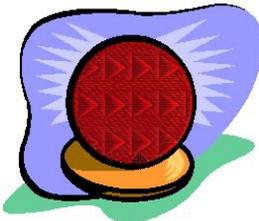
Next we have made an example of this particular case. Please follow the steps:



1) Make the selection of each color needed. As you select colors, these will appear in the color box of the Auto Trace mode.



For example, in the left figure, the four colors that form the crystal ball have been selected. Observe that these colors appear in the AutoTrace color box.



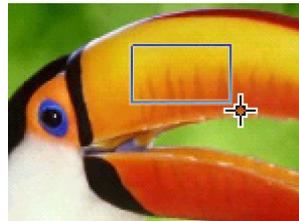
2) Place the mouse pointer on the job area and click on the crystal ball's outline to trace it. This trace corresponds to the four colors selected.

3) Open the context menu to define other section elements (direction, entry and exit points, etc.). Finally, press the Enter key to confirm the modifications.

Auto-complete with complex color images

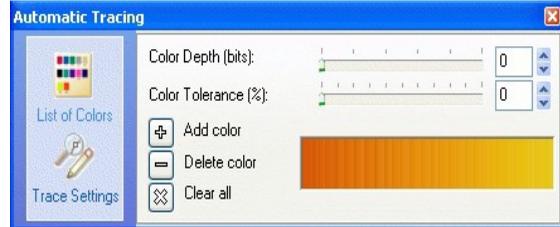
When you have complex color images (a photo) you need to make an exact identification of the colors required for the tracing. The first step will be adjusting the *color tolerance* of those colors recognized, to avoid having to identify all of those having the same shade within the area.

- 1) Open a new document and insert a reference image.
- 2) Pick the desired creation tool and the stitch type with which you are going to work with. Choose the Auto Trace mode. The Auto Trace dialog box will open.
- 3) Activate the Add Colors function by pressing the "+" button.



4) Then select on the image a rectangle containing the colors you want to use for detection (previous figure). The Colors chosen in the selection will be kept by the application and shown in the Auto Trace box. If you wish to add more colors to the list, repeat this operation.

If you want to Remove color of the area you can follow the same process as before, but using the "-" button. If you wish to delete all colors of the list press the "X" option.



So far, you would have stated the colors included in the area definition, then you must perform the scan.

5) Click inside the image sector you want to trace. Increase the tolerance if necessary to get a better recognition of the shape. To confirm the action, press the Enter key, completing the trace.

Increase or decrease outline recognition

Once the outlines have been recognized, by making a trace, you can increase or decrease the detected areas by pressing the up arrow or down arrow keys as much as you need.

By doing this, not only can you filter some areas that are very close among others or are very little but you can also smooth some abrupt outlines.



This Filtering process can also be done automatically. For this to happen, once the outline has been recognized, access the context menu and select Contract detection or Expand detection. Once you are satisfied with the obtained recognition, press Enter to generate the design.

Digitizing using Shapes

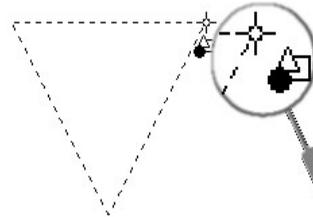


You have the possibility of creating sections based on standard geometric shapes (rectangles, triangles, ellipses, etc.) or advanced shapes with only a few mouse clicks, thus having a good control over the size and layout.

You may use geometric figures in the creation of Path and Area type sections. The main function of the geometric figures is to save time while tracing, also guaranteeing a good sections finish.

Observe in the next figure that the mouse pointer changes its shape when working with this option.

Remember that when creating geometric figures, you obtain shapes with symmetric sides when pressing the Shift key, (squares from the Rectangle tool, circles from the Ellipse tool, etc.).

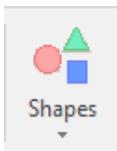


Example of creation of a geometric figure

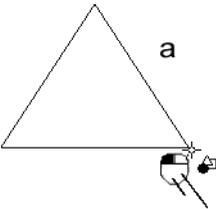
From the ribbon Embroidery



1) Select the Path or Area creation tool and the desired stitch type. Note that with Column section type is not possible apply Auto-complete Mode to geometric figures.



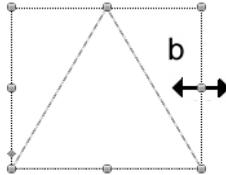
2) Click on Shapes to view the available ones.



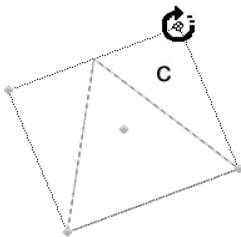
3) To create a figure, press the main button of the mouse over a point in the design's area, and drag it without releasing it.

From where you have pressed the mouse button, a box with solid lines is drawn; this will be the figure that will change its size as you drag the mouse (figure a).

4) Once the box has the desired size, release the mouse button. Immediately after the figure is created, it will be available for you to adjust its size and shape (figure b). If necessary, before proceeding to confirm the section's creation, modify the shape and layout of the figure.



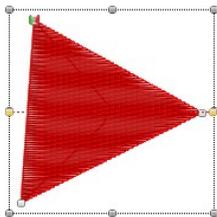
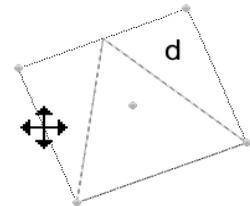
By dragging the corners you reduce or enlarge the figure in both axis at the same time; whereas, by dragging the middle points you enlarge or compress the figure in only one direction.



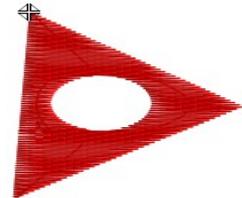
By keeping the Shift key pressed when carrying out the dragging, you obtain a symmetrical displacement of the box's sides, maintaining the centre in its position. To rotate the figure, place the pointer in any of its corners, and keeping the Ctrl key pressed, drag it. This will make the figure rotate (figure c).

At any time (before confirming the creation of a section), you can move the outline of the section to any place in the design's area (d). To do so, drag the mouse pointer to the border and when it turns into a cross (figure e), click and drag it to the desired position.

Once the shape and layout is defined, press Enter to end the creation of the section (figure e). *Stitch Era* will then create the figure within the design area.



Once it is created, you can edit the section as usual. You can also use the geometric figures to create, for example, holes or split lines. In the right figure observe an Area section with a hole, which was applied with the Ellipse option.

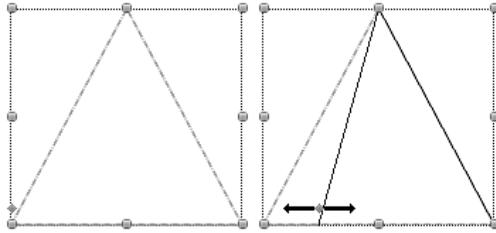


Shape Controllers

Some figures have transformation nodes, known as shape controllers. These nodes are used to modify the figure outline, once defined in the design area. Its symbol is a transparent square.

When selecting one of the shape controllers, this turns into a small black diamond (right figure), which when dragged varies its shape.

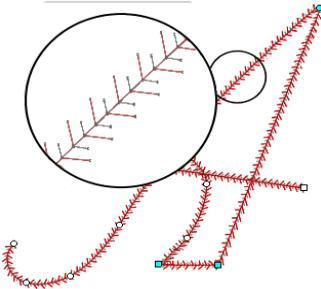
Press Enter to confirm the object.



Advanced Fill Types

Fills on Paths

Programmable Stitch

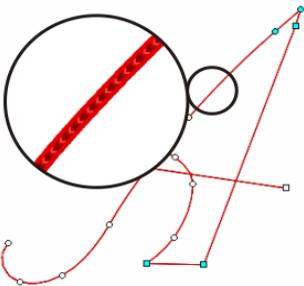


Main properties:

Colors, stitch name, horizontal and vertical stitch scaling, stitch spacing, rotation and number of stitches lines, adjust stitches to the shape (distortion)



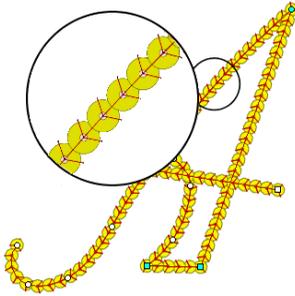
Chenille



Main properties: Color, Stitch Length, Minimum Angle



Sequin

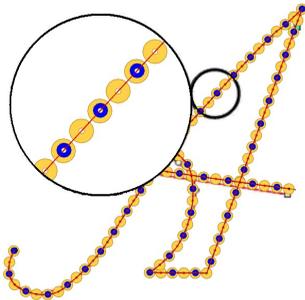


Main properties:

Thread color, density or spacing between sequins, diameter, style and maximum stitches length, initial offset, stitches repetition, adjust to path, exclusion margin.



Multi Sequin



Main properties:

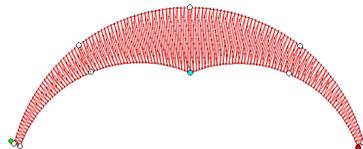
Thread color, density or spacing between sequins, sequin pattern editor, style and maximum stitches length, initial offset, stitches repetition, adjust to path, exclusion margin.



Fills on Columns

Advanced stitch fill modes for columns include most of the fill modes available for turning areas

Pattern

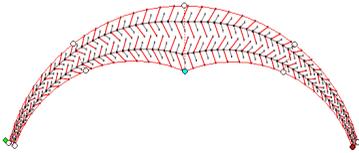


Main properties:

Color, type (mathematical pattern, graph, manual, combined or masking), density of stitches or spacing, random effect, width compensation due to thread pull, automatic stitch split.

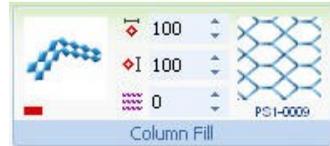


Programmable Stitch

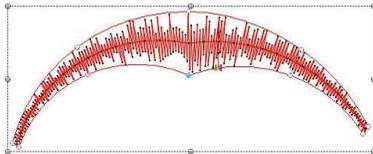


Main properties:

Colors, stitch name, horizontal and vertical stitch scaling, rotation and number of stitches lines.



Fur Fill (Zig Zag)

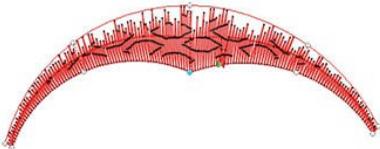


Main properties:

Colors stitch, density, effect value, effect side.



Fur Fill (Pattern)



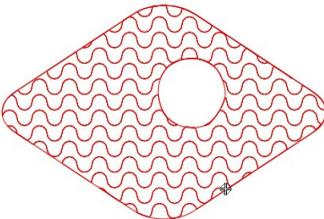
Main properties:

Colors, stitch, Name pattern, density, effect value, effect side.



Area with Uniform Fill (Rigid)

Programmable Stitch



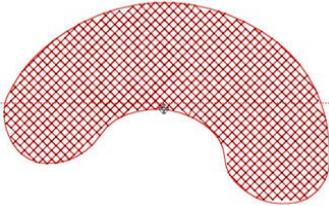
Main properties:

Colors, stitch name, horizontal and vertical scaling, spacing between stitches, rotation and number of files. It only supports the first direction.



Description: The Programmable Stitch may be applied to sections with more complex shapes and holes but will have only one direction and the stitches appearance will not change.

Cross Stitch



Main properties: Color and size of the cross stitch. It only supports the first direction.



Other properties:

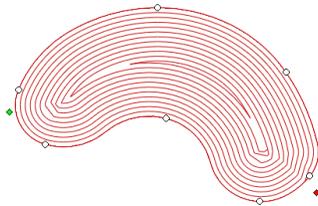
Width, Height: These properties let you define the size of the cross stitches.

Repetitions: Indicates how many cross stitches the system will generate for each cell.

Clipping: When set, stitches that are partially outside the object area were trimmed with the object contour. When unset, those stitches were inserted normally and may lay partially outside the object area.

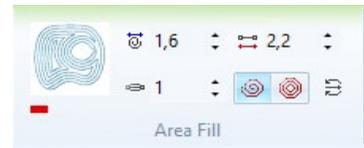
Description: These are stitches with the shape of a cross. All the crosses have the same size and are linked one to the other covering the entire section's area, resulting in an apparent manual embroidery. Define the stitches size according to the effect you desire.

Radial fill



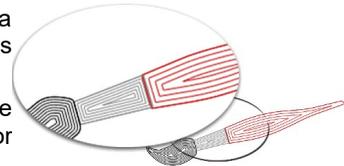
Main properties:

Color, length, repetitions, type (radial or concentric), variable density. This fill type does not support directions.

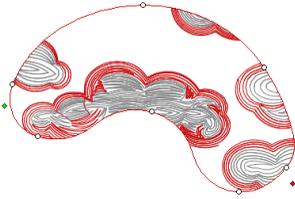


Description: This is an artistic fill method that creates a series of concentric paths (spiral), projecting the section's shape towards its centre.

Have in mind that the path varies according to the configuration chosen, since this may be either Radial or Concentric.



Texture



Main properties:

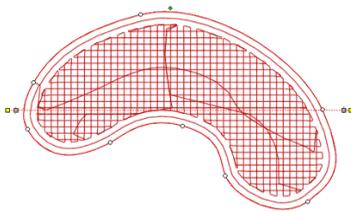
Colors, name, horizontal and vertical scaling, displacement, rotation, stitches length, repetition, random border, cut length. It does not support directions.



Description: This fill is used to create designs with different patterns, since you will not have to create the different textures manually.

To apply this fill type, simply select the appropriate texture (wood, clouds, etc.) and establish some parameters referred to its aspect (scale, displacement, angles, etc.); from the Graphic View you will be able to visualize the changes made.

Chenille



Main Properties:

Color, Stitch Length, Spacing.



Other properties

Margin: Distance from the edge at which no Underlay stitching will be placed., Trim Length,

Minimum Angle: It defines the minimum angle of stitch with Chenille fill. In corners with smaller angles to the established one, the needle generates a second stitch distanced the last one, to extend the angle and to avoid errors in the design,

Border Finishing: The fill take distance of the edge and is generated up to 4 completions to the design. Recommendation: value 1

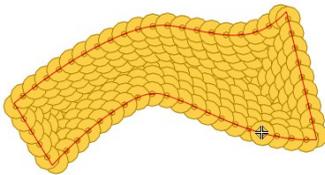
Description: This fill type was specially created to use chenille threads. Produces stitches that fill the Area section types, arranged in a way that form little cells.

This fill produces needle picks that form a soft tufted cord, that in the whole appears like a lot of flakes trimmed transversely. Observe the resulting effect for this stitch type.



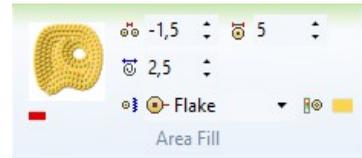
See how this kind of stitches are arranged in a design, which is made out of different sections and different stitch type (Chenille, Zig-Zag, patterns, Cross Stitch).

Radial with Sequin

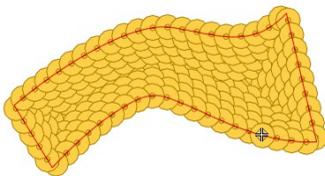


Main Properties:

Combines the properties of the Radial Stitch with the ones from the Sequin stitch. Does not support directions.



Radial with Multi-Sequin



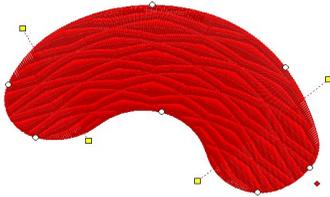
Main Properties:

Combines the properties of the Radial Stitch with the ones from the Multi-Sequin stitch. Does not support directions.



Fills on Turning Area

Turning Area with Pattern Fill



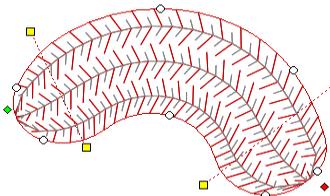
Main Properties:

Color, Size, spacing, fill, hole features, pull compensation, avoid little widths, filter bordering.



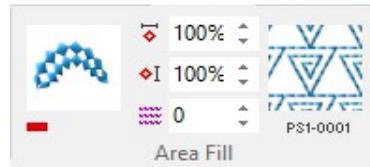
Description: Similar to the Uniform Pattern fill, but with the difference that the Uniform Pattern fill allows more complex figures but only takes one direction, while the Elastic Pattern takes more than one direction line but does not admit holes or a complex main reference.

Turning Area with Programmable Stitch



Main properties:

Color, horizontal and vertical scaling, stitch name, H spacing, rotation, number of lines.

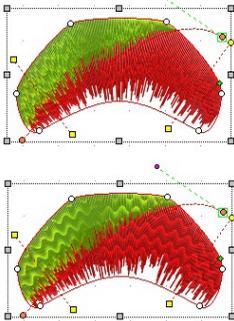


Stitches are oriented according to the directions of the sections.

Description: Though it is similar to the Programmable Stitches, the stitch arrangement is different.

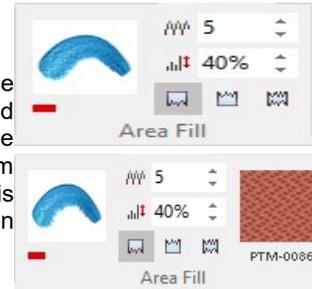
The Elastic Programmable Stitch will be applied on sections with a simple section shape and no holes, accepting several direction lines; the stitches will deform according to the area's geometry and the layout of the direction lines.

Fur Fill (Zig-Zag or Pattern)



Main Properties:

Colors, density, random effect (side and value). The stitches are oriented according to the section direction, while the end effects will be determined from the Object Inspector: side in which is going to be applied and transformation percentage.

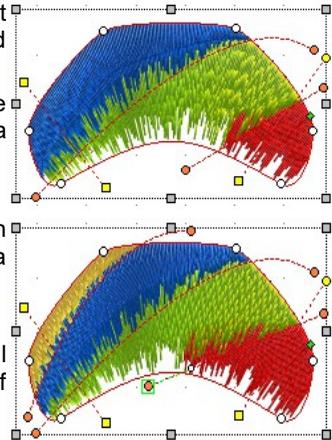


This fill types introduce a random transformation effect on one of its sides, or in both, making the section end irregular.

They allow more than one direction, and also the multiple effect lines inclusion. Each line defines a needle change, allowing multiple section colors.

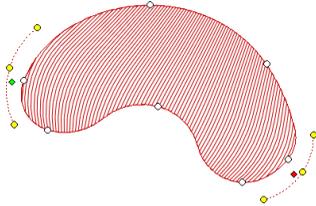
The effect lines have the similar features as a direction line. These fill types do not allow the use of holes or a too complex main reference.

Applying a combination of the options allowed, this fill offers a lot of possibilities, making the creation of outstanding embroideries an easy matter.



Fills on Flexible Area

Flexible Fill



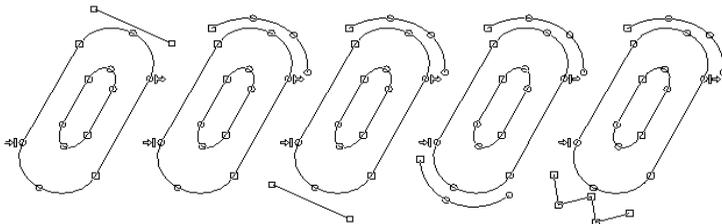
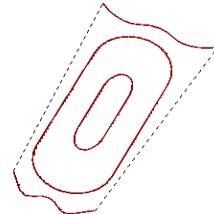
Main properties:

Density, spacing, length, border outline, color



Description: This tool fills an area varying the orientation of stitches, adapting them to the direction(s) [either straight or curved] specified for the section.

Unlike other Area fills, the direction lines for a section with Flexible pattern are arranged outside the shape being designed, trying to cover the entire section.



The figure on the left shows 5 complex areas with flexible pattern, starting on the left side: with a unique straight direction, a curved direction, a curved and a straight direction, two curved directions and finally a curved and a broken line.

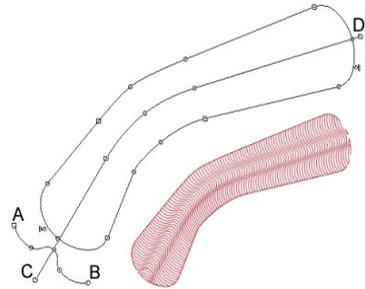


Observe the result of creating the five sections. You will see that the lines change to adjust to the specified directions..



Spine:

It is another variable direction for the Flexible Fill stitch type. To generate the fill lines *Stitch Era* moves the direction along the spine. During the Area creation and edition, you will find the Spine command in the context menu.

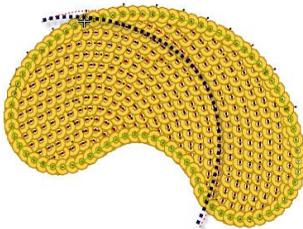


In this example, curve A-B is the direction and the curve C-D is the spine. See the result.

You can only apply a Spine to an Area section with Flexible Fill. First define a direction and afterward a spine. Both direction and spine can be straight, curves or a combination of them. Through their use, you can create the references for the flexible fill.

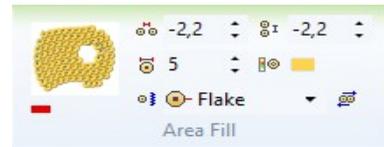
To get adequate results, make sure that the spine crosses both the main outline and the direction, and that this last one always covers the shape of the trace over the spine.

Sequin



Main properties:

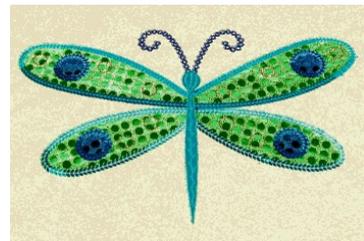
Style, diameter, spacing, margin, repetition, device's layout, maximum stitch length, adjust to path. It does only support the first direction.



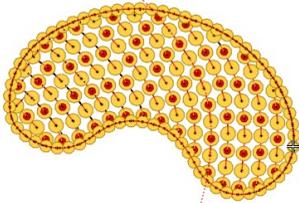
Description: This is a special fill type that allows you to insert sequins to those machines supporting sequins.

The result will make the sequins become fixed, one by one, to the fabric through the thread, filling the section's area as much as possible.

On the right figure you can observe an embroidery created with the sequin's technique.



Multi-Sequin



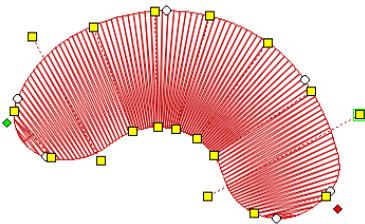
Main properties:

Style, Spacing, margin, Multi-sequins pattern. It does only support the first direction.



Description: This fill type allows you to insert multiple-sequins arranged following a flexible direction (straight or curved). The way the different sequins are placed may be selected using the multi-sequin setup box. See details in Chapter 9, page 18.

Auto Fill



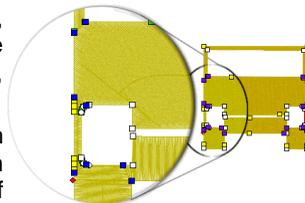
Main Properties:

Color, maximum cut width, and a series of properties that depend on the stitch types defined for each section segment.



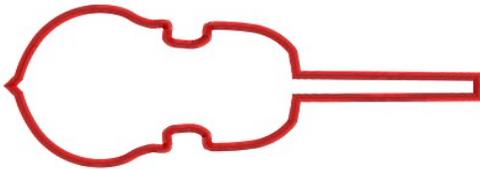
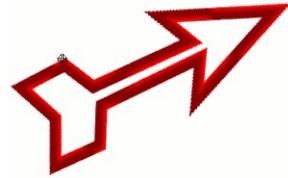
Description: When applying this creation tool, the system inspects the section's geometric shape to define, according to it, the most convenient stitch type, automatically dividing the section to create sub-sections with different stitch types, depending on their geometry.

This process may create, besides, new direction lines for each of the sub-sections. These sub-sections are separated between them through cut lines, that are easily recognized because of their border points which are blue.



3) After capturing half of the section's shape, open the context menu and choose the option *Close w/Mirror Shape*.

4) When using this function, the figure will be finished, reproducing the figure already created, but inversely. To confirm the section creation, press the Enter key.



Create parallel lines



 This edition tool is useful to create sections from the geometry of a section already created, since the application will trace the outline of a new section having as reference the outline of the section chosen as model.

After creating a Path or Area section, edit the object, and from the context menu, click on *Parallel Objects...* function. The *Parallel Line* dialog box appears. Define an offset value so that a new section is traced from the proportions of the original section.

The Offset value corresponds to the displacement (measured in mm.) that the new figure will have regarding to the initial section.

It can be positive, generating an enlarged parallel line; or negative, generating a smaller parallel line inside the initial section.



You can also define the number of layers to be created, that are the number of parallel lines you want to create. The distance between layers will be the offset value.

When pressing the Enter key you confirm the creation of the new section. Last, generate the sections with the F9 key.

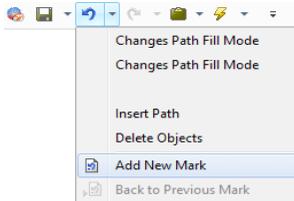
In the example, see the result of applying this function to a star filled with a running stitch, having defined an offset of + 5.0 mm. and two layers.

Afterwards, we edited each layer and changed the fill to E-stitch and Sequins.

This tool may be useful, for example, in the work with sequins, to create applique, etc.

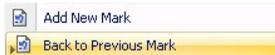


Undo Mark



Before making changes that you know could be extremely harmful for the design (for example: modifying the section's block size too much, creating new sections, etc.) , you can insert an indication for, in the case of not getting the desired result, getting back to that point (mark) easily, undoing all the actions made at that time.

To apply the Undo Mark, select Add New Mark from the drop down options from the Undo button in the Quick Access toolbar.



Once you continue with your work, the command Back to Previous Mark, will become available. Remember that you can apply several Undo marks.

Sort Sections by Color

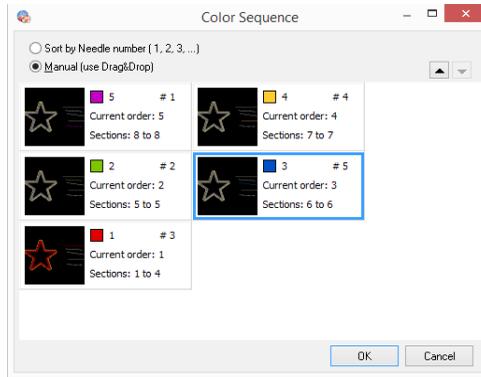
Stitch Era provides the Sort Sections by Color tool, that can be used in automatic or manual mode.

This tool is used to minimize the number of color changes produced when embroidering a design. To order sections sequence by color is a very common practice, so that all the sections of a same color are carried out one after the other.

Remember that Stitch Era orders the sequence according to the color of the main fill (or the first color of the stitches, if it consists of a multicolour programmed stitch).

It is possible to find additional color changes between sections due to the outline fill, which is not shown in this box.

From the Embroidery ribbon; Finishing Tools group, choose from *Sort Objects ...* the *By Color* command. *Stitch Era* will show the Colors Sequence box.



When you select the option Sort by Needle number (1,2,3,...), you perform an automatic ordering based on the color number (the lowest color number at the beginning, the highest at the end).

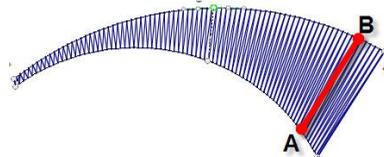
When you use the Manual (use Drag&Drop) option, click on any of the rows and use the Up - Down buttons to freely modify the section’s position in the sequence (or drag & drop).

When you finish, press OK to establish the new sequence.

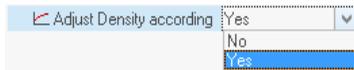
Density-Stitch Length compensation

Some embroidery designs, for example designs using special threads, sometimes require accurate control of stitch density, particularly in regions where stitch length becomes very small.

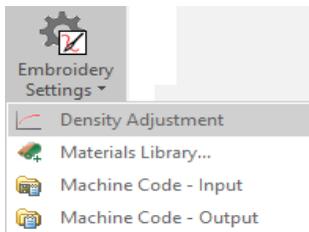
On those regions, and due the small stitch length, stitch points tend to lay too close, producing higher thread break rates. Slightly increasing stitch length (or decreasing stitch density) often solves the problem but it is not always possible because all the object is affected (not just the thinner regions).



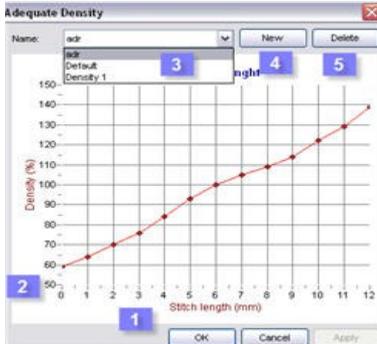
Stitch Era offers an automatic density-stitch length compensation for this situation.



Basically, you define how much density should be decreased or increased for each stitch length value and set your objects to use “Adjust Density according to Stitch Length”.



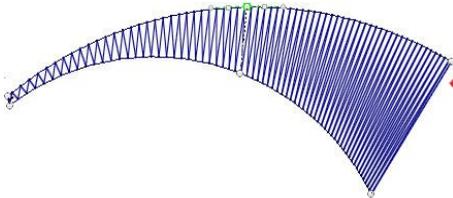
On the *Embroidery* ribbon > *System Libraries* group > in *Embroidery Settings*, you will find the command to open the *Density Adjustment* editor. Definition is made by building a curve that indicates density variation (in % of the object density) for all normal stitch lengths values (0 to 12 mm).



- (1) X axis: stitch length
- (2) Y axis: density variation (in %)
- (3) Previously defined schemas
- (4 & 5) Create and delete schemas

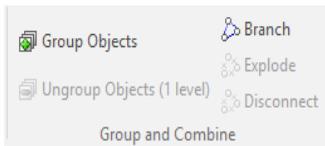
The curve should be read as:

When the length of the stitch is x mm, then use a density y% of the value indicated for the whole section within the object inspector.



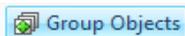
The example at the left shows the results of having used “Adjust Density according to Stitch Length” compensation. Observe that stitch density is lower at the sharp extreme (left) and higher at the right, where stitch length is larger.

Advanced Block Tools



To keep a group of sections in a block permanently, there is a function known as *Group Objects*, which can be accessed either from the context menu or from the *Block-Layout* ribbon, *Group and Combine*.

Grouping



The groups creation does not alter the sections sequence, it only links them in terms of their physical position within the design.

To group two or more sections, follow the steps:

- 1) Create a block with the sections, which may or may not be next to each other in the section sequence.
- 2) Select the command *Group Objects* from the *Block-Layout* ribbon > *Group and Combine* group. From that point, each time that you click on any of the grouped sections from the Edit Block mode, *Stitch Era* will automatically select the entire group of sections that form it. You can delete a section from a group without ungrouping, just selecting any element of that group and deleting it. You will observe that the group has all the original sections with the exception of the one deleted.



To ungroup a group, select any of the grouped sections (*Stitch Era* will select the entire group) and activate the command Ungroup.

You may not only form a group of sections; you can also form a group that is made out of different objects, which can be also other groups. When you ungroup the latest group, the ungrouping process will only ungroup one level. It will leave the previous group still grouped. You may need to use the ungroup tool again, to ungroup another level.

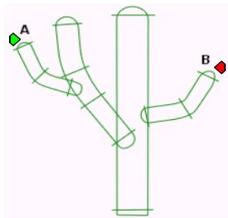
Branching



A branch is a group of sections linked in a particular way, having only one entry and exit point, and the stitches are generated by considering the group as if it were only one section.

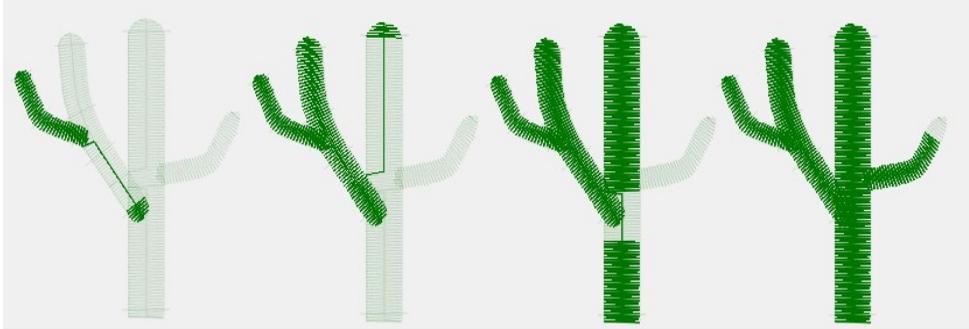
The sections that make up a branch are laid out automatically one after the other in the sections sequence. Their order is controlled automatically by the system. Access this function from either the context menu or from the *Block-Layout* ribbon > *Group and Combine* group.

In the next figure, there are four Area type sections, which were created randomly. To connect them in a branch, you must follow these steps:

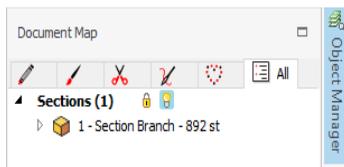


- 1) Use the *Select Object* tool  (or press F11), and create a block that contains all sections.
- 2) From the context menu, access the item Branch and select Branch.
- 3) The system will prompt you to set the Entry point. Move the pointer towards the (A) zone and click to set the Entry Point for the entire branch. Next, it will ask you to set the Exit point. Move the pointer towards the (B) zone and click to set the Exit Point.

The group of sections has been connected in a branch. *Stitch Era* generates the stitches considering the entry and exit points of all the group, optimizing the runs.



You can create branches by using any type of section and their combination. Use any stitch type, except programmable stitches and Variable Density stitches with more than one density curve. The connection of sections into branches does not affect their physical position, although they do affect their location in the design sequence, which is automatically controlled by *Stitch Era*.



The sections that are connected through branches appear with a box sign in the Document Map on the Object Manager.

Explode and Disconnect (branch off)

In order to disconnect a branch please proceed as follows: Click on any of the sections that are branched, then the entire Branch will be selected, from the context menu select the command Explode or Disconnect.

Explode



Use this command if you want to disconnect a Branch, but keeping the embroidery sequence they had before they were branched.

Disconnect

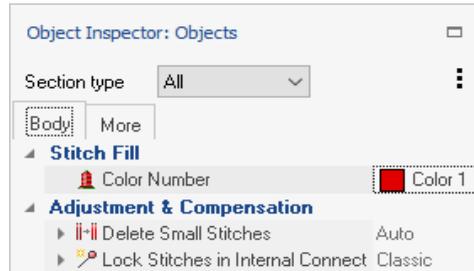


If you want to disconnect a Branch and keep the embroidery sequence established by Branch, you must use the Disconnect command.

Edit stitch properties

To modify the fill properties of a group of sections, first you need to form a block with them and open the Object Manager to visualize the Object Inspector or directly by pressing the F8 key.

This will show only those properties that are common to all the sections that make the block.



From the Object Inspector you can modify the section's properties to Paths, Columns and Areas, that form the selected block.

Remember that to achieve this, you must operate over one section type at a time.

Follow these steps:

- 1) Select the block and open the Object Inspector.
- 2) On the Main tab, use the Combined Section Type to establish the section type which Properties you want to change. If you leave the *All* option enabled, you will be able to operate over properties that are common to all the section types that are in the block (like the color and the density, for example).
- 3) Modify the desired values.
- 4) Click far off the block to unselect it. Generate the design so that the sections are updated.

When you edit the stitch properties of a block, have in mind that:

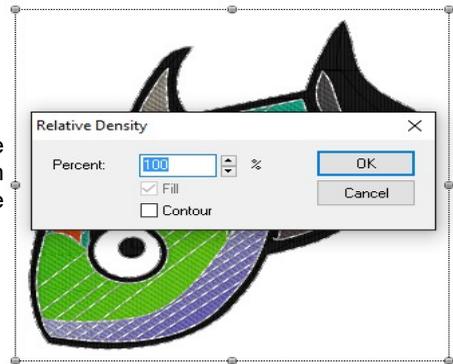
- The changes done to the common properties that you carry on, apply to all the sections of the block no matter their type. For example, when changing the Outline Color, all the sections that have an outline established will change their color to the new specified one.
- The changes applied to the properties of a determined section type, are applied to all the sections of the same time that exist in the block. For example, if you change the underlay to None, all the sections of the selected type that had an underlay will not have it anymore.

Relative Density



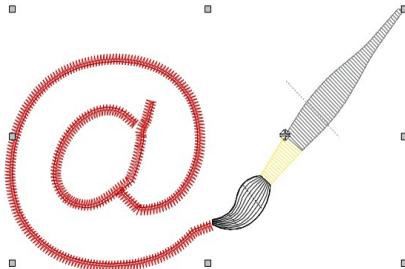
From the context menu, you have the command *Relative Density* available.

Through it, you modify the stitch density of all the sections that form the block. The density in each section, varies according to a global percentage applied to the block.



The operation mode is the following:

- 1) Select the block. For the example, we took a block formed by two Zig-Zag Paths (forming the "@"), a Column with longitudinal stitches (for the brush lower zone, in black color). Other Column stitch type but with E stitches and last, a gray Area with E squared stitches.
- 2) Access the context menu, and select the command Relative Density.
- 3) In the Relative Density dialog box, specify a density percentage variation. In the example we used 50%.
- 4) After pressing the OK button, the density of all the sections that make the block, decrease according to the percentage designated (in the case of our example, the density of all section decreases to 50%).



The relative density variation applies to main stitches, but also can be applied to the outline if you place a check in the Contour item control box.

You can also increase the relative density, inserting values over 100 in the percentage box.

Chapter 11

The SMART DESIGN tool

Contents:

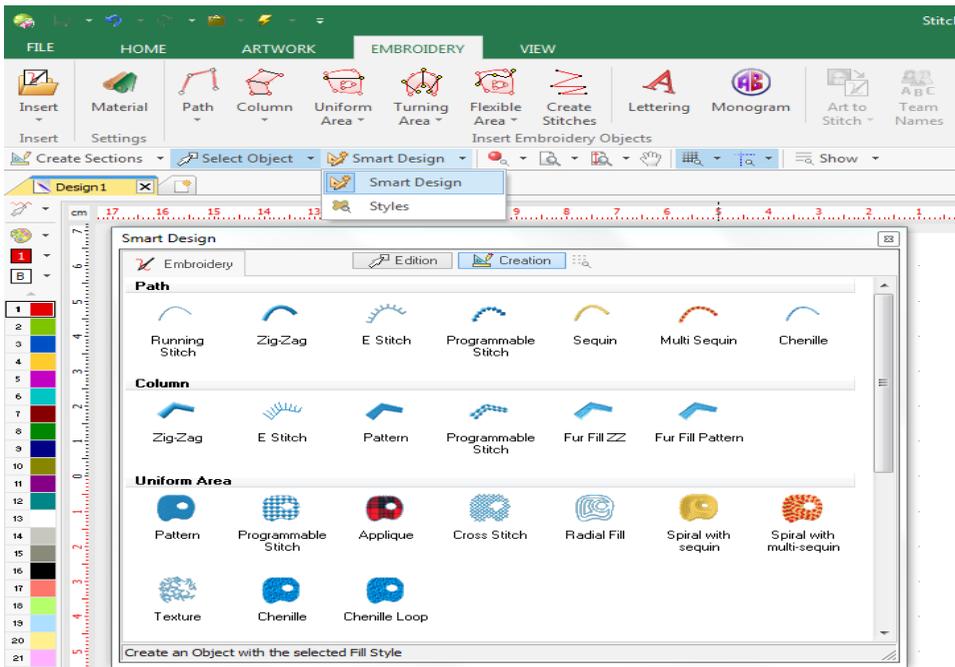
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Smart Design

This tool accelerates the activities related with the objects creation and objects editing, as it is described below, as well as some functions related with auto-digitizing (auto-complete). This means that Smart Design has different functionality depending on the moment it is used, but in every case it simplifies the steps of the sequence necessary for such activities.

 Press the “Smart Design” arrow button to unfold a list of tools, and click on the “Smart Design” tool, located on the auxiliary toolbar.

The Smart Design window will open as shown in the figure below.



The Smart Design tool includes the different types of objects with their respective fill modes.

The number of objects and fill modes depend on the purchased software product, as the more advanced systems include more types of objects and fill modes. So, all the objects and fill modes shown here may be not included in your product.

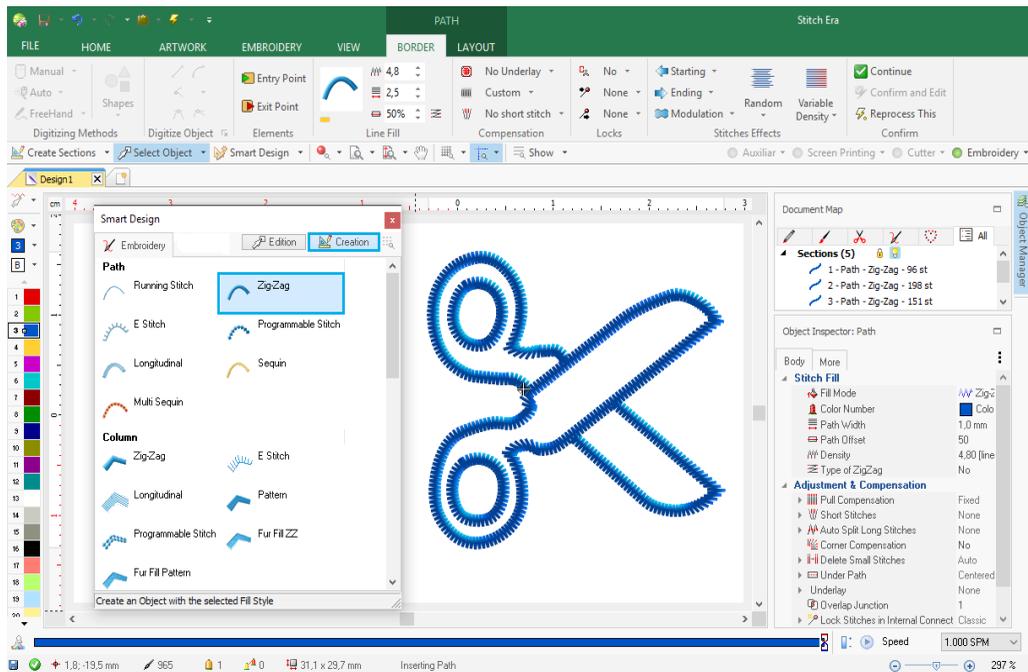
There are two available modes: *Creation Mode* and *Edition Mode*. We will see each one next.

Smart Design in Objects Creation mode

When there is no object selected on the working area, the Smart Design tool works in the Objects Creation mode.

From the Embroidery list of objects available, select the desired type (Path, Column, Area, Lettering, Monogram, etc.) and fill mode you want to use to create a new object. Then start digitizing the object on the working area right away. When you finish, press Enter. So simple!

Select any other object type from the Smart Design tool, and start a new object. When you finish, press Enter. Really simple.

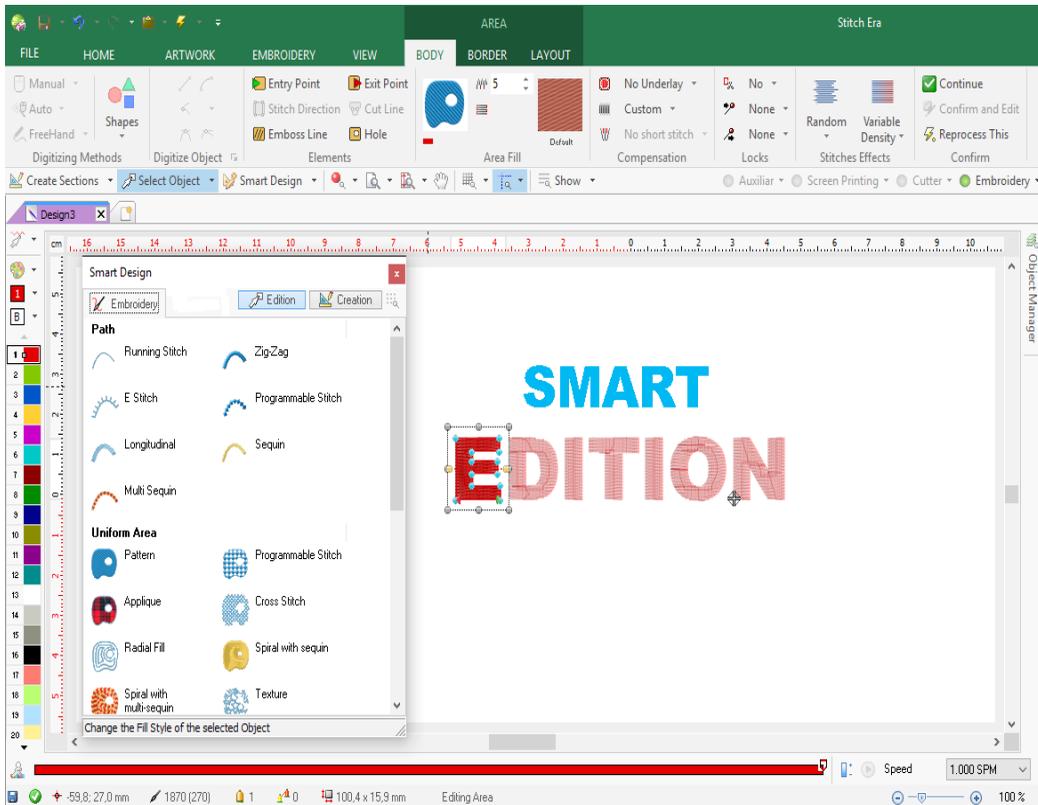


When you select the type of object in the Smart Design tool, the ribbon bar on the top of the workspace toggles to the tab that includes the properties of the selected type of objects, where you can edit the characteristics of the object you are creating.

Note: This function replaces and simplifies the sequence of steps to select the type of object and fill mode: *Embroidery ribbon > Insert Embroidery Objects group > Fill Mode > Fill Type.*

Smart Design in Object Editing mode

When there is a selected object in the workspace, the Smart Design tools works in Object Editing mode. The Smart Design tool quickly converts the fill modes of the objects as well as it may convert between some object types.

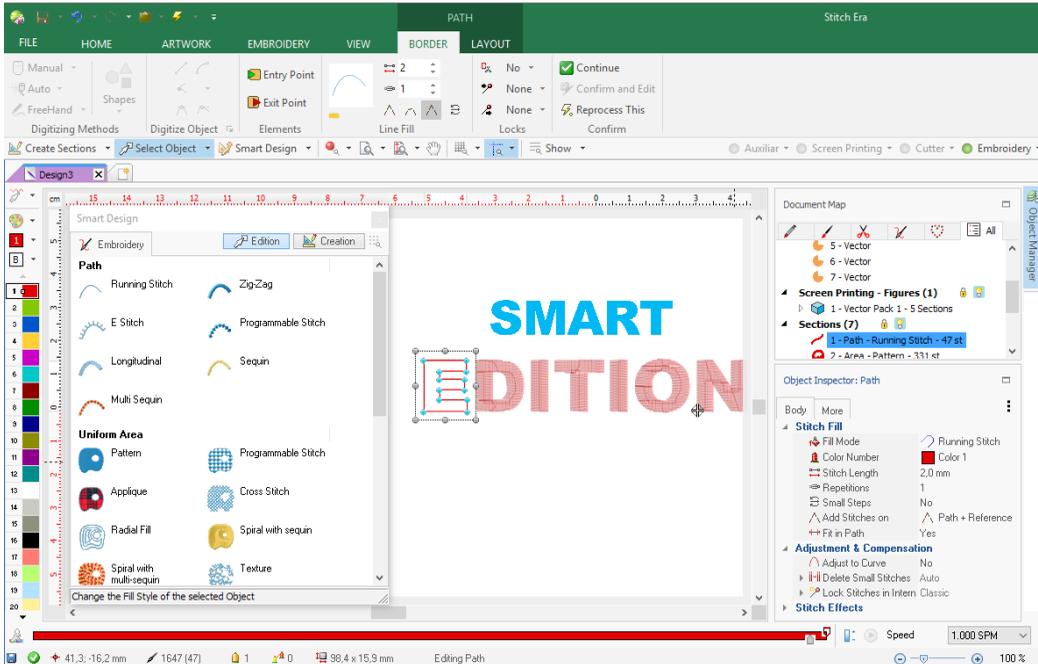


Select an object from the workspace (it may be an embroidery object or a hotfix object). In this example, we have selected the letter E made with an Area with Uniform Fill. Its object properties are shown on the ribbon bar, above the workspace.

We want to convert the object type from Area with Uniform Pattern fill to a Path with Running Stitch. Simply click on the type of object and fill mode to be converted to, on the list of available options in the Smart Design tool.

After the conversion is done (when the selected conversion is an available option) the selected object will be of the new type and fill mode.

The ribbon bar will show the properties of the new object type, where its characteristics can be edited.



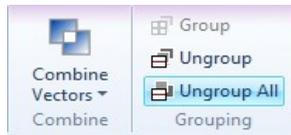
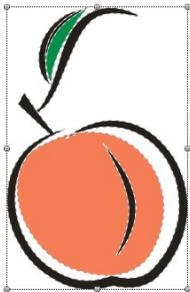
Note: Not all the type of objects can be converted to any kind of object types. In some cases the conversion cannot be performed, and in some cases the conversion process may lose some of the objects characteristics (direction lines, and other elements).

Important: On the software products containing both decoration modes embroidery and hotfix (rhinestone or sequin) simultaneously, this tool may also convert embroidery objects into rhinestone (or sequin) objects and viceversa.

Smart Design in Vectors Digitizing mode

When there is a vector shape in the workspace (from a vector graphic application), the Smart Design tools works in Auto-Digitizing mode. In this case the Smart Design tool creates an object (embroidery or hotfix, according to the software features) with the shape of the selected vectors. This is the fastest way to create objects when the artwork comes from vector files.

The vector shapes may come from vector files made on other graphic applications, from art stock collections, from vector shapes created on this application and also from the result of vectorization of raster (bitmap) files.

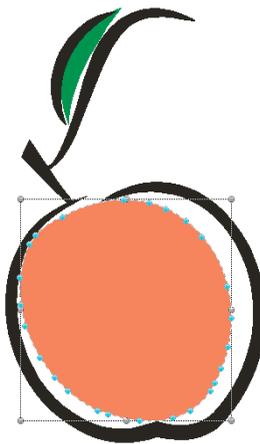
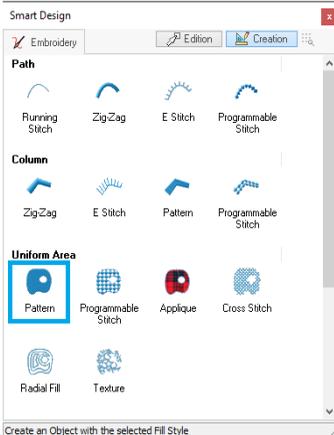


Load a vector graphic file in the program. That image may be probably a composition of many combined graphic elements.

Ungroup All the elements of the image (function on the ribbon bar while the image is selected).

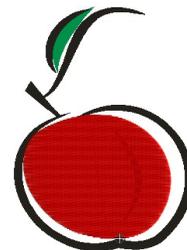
After ungrouping, check the created geometric shapes (vectors). If required, use the combination tools (to simplify the shapes).

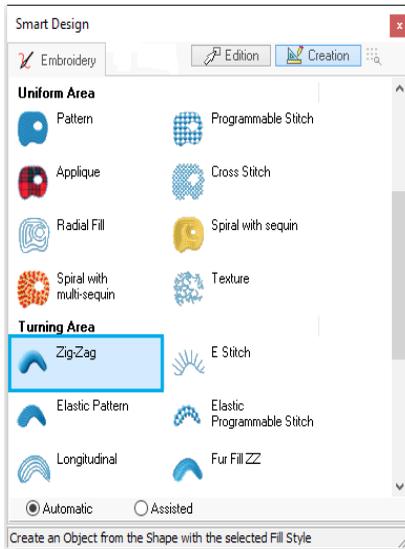
Once we have the final vectors, we may start auto-digitizing. Work on each vector, one at a time.



Select the object type and fill mode you want to use for the new object to be created from the available options in the Smart Design tool.

The result is a new object of the selected type, with the shape of the selected vector.



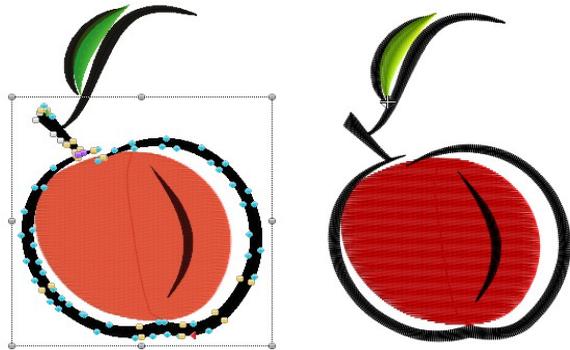


Next, we selected the peach contour vector, and chose Turning Area with Zig-Zag to create the new object (below figure).

We changed the color to black. Change Properties if needed.

Repeat the procedure for the remaining vectors.

See the final result on the image below right.



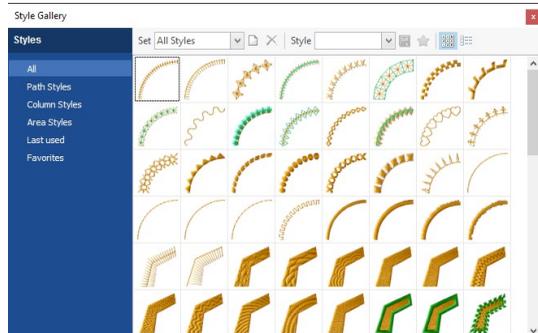
Auto Conversion using Styles

On previous paragraphs, after clicking on the *Smart Design* arrow button to unfold a list of tools, you selected the first option that appeared that was *Smart Design* tool. The second option, is another useful tool for the design creation, called *Styles*.

These are components that contain a complete definition of all their fill properties for the different section types. The only feature not defined within the Style is the color that the new section will have.

By selecting a style, you define all the fill stitch properties your object will have.

In the style gallery left pane, you have a list of available style components according to the section type: Path, Column or Area, and ALL to visualize the styles altogether.



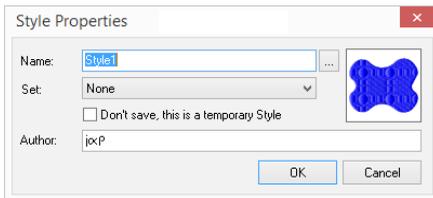
When you choose a style, and press the yellow star on the style menu box, the selected style is copied to the list of favorite styles. Later on, you will be able to click on the Favorites button, to visualize only the styles that were designed as Favorites.



Creation of a new style

If you wish to keep a fill for its later use, you should create a new style with it. Follow these steps:

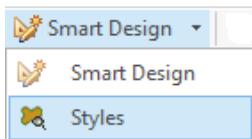
- 1) Select the configured section with the desired fill.
- 2) Inside the Style window, click on Save Style.
- 3) A dialog box appears, showed in the next figure.



Introduce the new style's name, and define from the boxes whether the new style will be saved (it is then said that the style is permanent, otherwise it is temporary) or will be included or not as a Favorite. *Stitch Era* automatically builds the simulated style sample (icon).

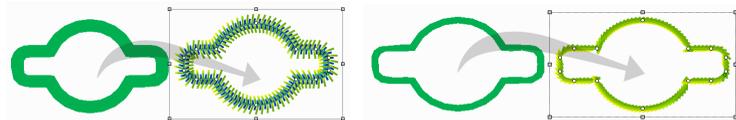
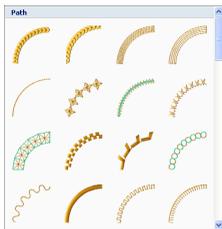
When the style is temporary, it will no longer appear in the following program sessions. If you create a style that will be used several times in the future, do not check the box "Don't save, it is a temporary style".

Using Styles



Press the "Smart Design" arrow button to unfold a list of tools. Choose the second option "Styles" to open the corresponding tool. The Style gallery window will open.

Having a selected vector image on screen, click on one of the styles. The image will be filled using the selected style.



Appendix A

Machine Codes

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Storage and transport

The embroidery designs are made of a bunch of information (data) that represents them. This data can be stored in different media types, for example, they can be in one or several files in the hard disk, in diskettes, in CDs, in a hard disk of another computer that is connected through a network, in the memory of the embroidery machine or in the memory of embroidery machines connection devices, etc.

Media type	Storage	Transport
3.5" Diskettes	*	*
Hard Disk	*	
CD Rom	*	
Pen Drive	*	
PC Network		*
Connection to machines		*

The Code problem: *Unlike other industries, the embroidery machines manufacturers have not yet established a unique format for the embroidery designs, each embroidery machine manufacturer has created at least one data format that identifies it with its own name or brand. Moreover, the manufacturers of systems for embroidery creation have done the same thing. We must add to this problem an even bigger one: data formats have been constantly evolving in time (changing) and we can find some incompatibilities between data formats and machines of different generation.*

Physical Media, formats and codes

The design can be codified in some of the codes allowed by the physical media where it resides. The storage and transport media more used currently is the diskette. The diskette allows you to save the embroidery designs, and at the same time it becomes the most common way of transporting it to the embroidery machine. The current embroidery machines can read diskettes, but they might not be compatible with all the codes that the diskette can support.

In the disks you can find different formats, some of them only accept one code. For example, there is a code named Barudan FDR and another Barudan FMC. In these codes, you can only save designs in Barudan code. The same occurs with the ZSK format, and many others. However, the D.O.S. format (developed by Microsoft) is supported, among other codes, by the Tajima, Toyota, Happy, Melco Exp, etc codes. That is to say, in a disk with D.O.S. format, you can save designs in several codes simultaneously.

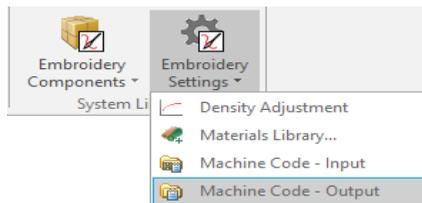
In the following chart you will find some examples of different media, formats and codes, which may be compatible or not with different embroidery machines. Check on the compatibility specification of your embroidery machine.

Physical Media	Format	Code
3.5" Diskettes	Barudan FDR	Barudan
3.5" Diskettes	Barudan FMC	Barudan
3.5" Diskettes	ZSK	ZSK
3.5" Diskettes	D.O.S. HD	Mitsubishi, Tajima, etc.
3.5" Diskettes	D.O.S. DD	Tajima, Toyota, Happy, etc.

As shown in the previous table, some codes are only supported by a unique format, so whenever you mention that code, you are also referring to the corresponding format. That is to say, when we refer to the ZSK disk code, we are also referring to the diskettes format and its code (logic interpretation).

Even though most of the current embroidery machines are compatible with several diskette codes at the same time, Stitch Era is able to recognize (export and import) a great deal of codes available in the market.

Machine Code - Output



Also known as Machine Profile, this tool allows you to adapt the embroidery designs to the specific characteristics of each embroidery machine.

It is located in the *Embroidery* ribbon > *System Libraries* group > inside *Embroidery Settings*.

The different embroidery machines, with their particular characteristics (that include the code, maximum stitch length, number of needles, thread cutter, borer, etc.) are considered by the application through the definition of these machine Profiles.

Note: For example, it is possible that an embroidery machine may work with designs that have less than 6mm stitches only, while other machines work with designs of 12mm stitch length. In this case, the same code might be needed, but the internal information is modified to be adapted to each particular embroidery machine. If you do not indicate the profile, Stitch Era will automatically apply the default profile.

Each time you export a design you will have to indicate which machine profile must be applied, so that the embroidery information is generated according to the requirements of that specific machine.

The Machine Profile properties box has three tabs that refer to the different media types in which the information can be sent to the embroidery machine: disks, paper tapes and connection to machines (through direct connection or EO Net).

Preconfigured Machine Profiles

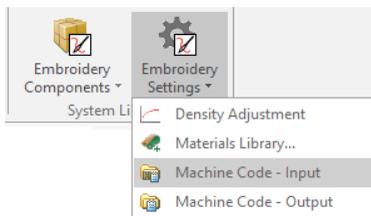
When installing some of the products of the *Design Era* line, the Machines preconfigured profiles will be automatically installed; which will be useful in most of the cases. These will be automatically selected according to the code you choose while finishing (export in diskettes, machines, etc.) and we recommend not modifying these preconfigured profiles.

Machine Profiles Personalization

If you need to adapt your designs to some particular machine, establish a specific profile for that machine and save it, so as to use it later when required.

Define as many machine profiles as you want, the system will keep that information in the data base to be used later.

Machine Code - Input



Designs (in their formats) that are prepared to be sent to embroidery machines usually have an extra quantity of controls and/or stitches that are required by the machines.

Stitch Era has a tool to accurately interpret this information replacing such data sequences for direct commands in order to obtain a cleaner design that makes its edition or processing clearly easier.

This tool, the *Machine Code – Input*, also known as Machine Code Interpreter, is normally used when importing designs (in different media types and formats). It is located in the *Embroidery* ribbon > *System Libraries* group > inside *Embroidery Settings*.

The application includes many preconfigured interpreters and you can add as many as you need to consider the features of your designs codes. It is highly recommended not to modify the preset interpreters.

Examples of preset interpreters: empty stitches to synchronize the beginning, jumps sequence to indicate a thread cut, stops to indicate a color change, etc.

Machine Codes Interpreters Data Base

Name (Interpreter): Selects an interpreter from the data base for its modification.

New: Creates a new code interpreter. The system will demand a name for the new interpreter.

Delete: Deletes the selected interpreter permanently.

Adjusted Values

(A) Empty Stitches at Start will be considered Sync. (avoid): The interpreter will delete all the stitches with zero displacement that are at the beginning of the design.

(B) Empty Jumps at Start will be considered Sync. (avoid): The interpreter will delete all the jumps with zero displacement that are at the beginning of the design.

(C) Delete Color Change at the Beginning of the Design: If there were a color change at the beginning of the design, it will be deleted. It is assumed that the design will start with needle 1.

(D) Stops will be considered Color Changes (charge): The interpreter will change all stop controls for color changes.

(E) Some consecutive Jumps will be considered as Thread Cut (add): A consecutive jumps sequence will be replaced by a thread cut control in addition to the corresponding displacement.

(F) Force Jumps After including Thread Cut (instead of stitches): The displacement that follows the inserted thread cut controls will be represented by an extra large jump stitch (otherwise, it will be represented by an extra large stitch).

(G) Consecutive Jumps for Thread Cut: Defines the number of consecutive jumps required to be interpreted as thread cut.

(H) Delete Empty Jumps Before Controls: Automatically deletes the jumps with no displacement that are placed before the controls, since they do not carry useful information.

(I) Delete Empty Jumps Following Controls: Automatically deletes the jumps with no displacement that are placed after the controls, since they do not carry useful information.

(J) Delete Empty Stitches Before Controls: Automatically deletes the stitches with no displacement that are placed before the controls, since they do not carry useful information.

(K) Delete Empty Stitches Following Controls: Automatically deletes the stitches with no displacement that are placed after the controls, since they do not carry useful information.

(L) Delete Other Empty Jumps (avoid): Deletes the jumps with no displacement that are in the design, excluding those at the beginning and the ones placed before and after the controls.

(M) Delete Other Empty Stitches (avoid): Deletes the stitches with no displacement that are in the design, excluding those at the beginning and the ones placed before and after the controls.

(N) Delete Thread Cut from the End of Design: Deletes thread cut (if it exists) at the end of the design. This information may be unnecessary.

(O) Delete Last Control from the End of Design: Deletes the last control (if it exists) at the end of the design. This information may be unnecessary.

(P) Borer Offset (H): Defines the horizontal coordinates of the borer device.

(Q) Borer Offset (V): Defines the vertical coordinates of the borer device.

Predefined Values

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
<i>Brother PHB – Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Brother PHC - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Barudan - Standard</i>	Y	Y	N	N	N	N	0	Y	Y	Y	Y	Y	Y	Y	N	0	120
<i>Bits and Volts - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Brother – Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Elna-Janome - Standard</i>	N	N	N	N	N	N	0	N	Y	N	N	N	N	N	N	0	0
<i>Generic</i>	Y	Y	N	N	N	N	0	Y	Y	Y	Y	Y	Y	N	N	0	0
<i>GMI Ela - Standard</i>	Y	Y	N	N	N	N	0	Y	Y	Y	Y	Y	Y	N	N	0	0
<i>Happy – Standard</i>	Y	Y	N	Y	Y	Y	3	Y	Y	Y	Y	Y	Y	Y	N	0	120
<i>Happy Bar – Standard</i>	Y	Y	N	N	N	N	0	Y	Y	Y	Y	Y	Y	Y	N	0	120
<i>Imbro – Standard</i>	Y	Y	N	Y	Y	Y	3	Y	Y	Y	Y	Y	Y	Y	N	0	0
<i>Juki – Standard</i>	Y	Y	N	Y	N	N	0	Y	Y	N	N	N	N	N	N	0	0
<i>Komtekct - Standard</i>	Y	Y	N	Y	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Melco – Standard</i>	Y	Y	N	Y	Y	Y	3	Y	Y	Y	Y	Y	Y	Y	N	0	0
<i>Mitsubishi - Standard</i>	Y	Y	N	Y	N	N	0	Y	Y	Y	Y	Y	N	Y	N	0	0
<i>Pfaff – Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Sierra – Standard</i>	Y	Y	N	N	N	N	0	Y	Y	Y	Y	Y	Y	Y	N	0	0
<i>Singer - Compucom - Std</i>	N	N	N	N	N	N	0	Y	Y	Y	Y	N	N	N	N	0	0
<i>Siruba – Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>SunStar - Standard</i>	N	Y	N	Y	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Tajima – Standard</i>	Y	Y	N	Y	Y	Y	3	Y	Y	Y	Y	Y	Y	Y	N	0	120
<i>Toyota – Standard</i>	Y	Y	N	Y	N	N	0	Y	Y	Y	Y	Y	Y	Y	N	0	0
<i>ZSK - Standard</i>	Y	Y	N	N	N	N	0	Y	Y	Y	Y	Y	Y	N	N	0	180
<i>Pfaff PCD - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Husqvarna - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Husqvarna Viking - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Pfaff PCM - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Pfaff PCS - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0
<i>Brother PEC - Standard</i>	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0	0



Machines Profiles Data Base



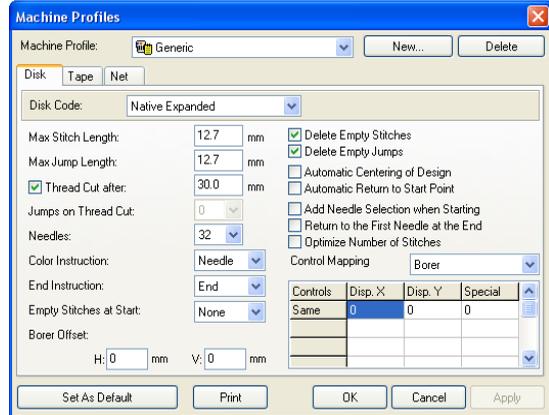
If you click on this icon, the following dialog box opens; it contains a series of controls which we will now explain.

Machine profile: Selects a profile from data base for its edition.

New...: Creates a new machine profile. You must insert a name for the new profile. You may create a new profile from the values of the active profile (the one you have selected) or either taking as a reference the default configuration.

Delete: Deletes the selected profile permanently.

Predetermine: Establishes the active profile as default for the code selected in the disk tab.



Net, Tape, Disk Tabs: Allow to change between the available media type to enter the parameters for each of them.

Disk Codes (disk tab): Shows the default code that will be used when exporting to diskettes using the selected machine profile.

Tape Codes (tape tab): Allows you to indicate the default code that will be used when punching tapes using the selected machine profile.

Net Code (net tab): Allows you to indicate the default code that will be employed when sending embroideries through direct connection or EO Net using the selected machine profile.

Adjusted Values

Copying form Disk tab: Allows you to automatically fill the tab (Tape or Net) with the same Disk tab configuration (only in Tape and Net tabs).

Code: Establishes the code to be used for the tab media type.

Maximum Stitch Length: Defines the maximum stitch length that the embroidery machine allows. Check the documentation of your machine. The range allowed is between 1 and 12.7 mm.

Maximum Jump Length: Defines the maximum jump or jump stitch length. Some machines operate with a jump length less than the maximum stitch length. Refer to the machine's manual. The range allowed is between 1 and 12.7 mm

Thread Cut After: Establishes a distance which when exceeded, a thread cut order will be automatically inserted.

Jumps on Thread Cuts: Establishes the amount of consecutive jump stitches that will have to be produced to indicate a thread cut. This option should be enabled only for those codes that use this method to indicate a thread cut.

Needles: Establishes the number of needles the machine has per embroidery head.

This control is enabled for those codes that allow needle pointing in the Color change command.

Color Instruction: Defines the command that will be used to indicate a color change. The options are:

(a) Needle: indicates that the instruction for the change will be sent to the respective needle.

(b) Stop: indicates that a stop instruction must be sent in order to represent a color change. This option is automatically disabled in those codes that only admit a Stop command as a color change instruction.

End Instruction: Defines the instruction to be sent at the end of the embroidery. The options are: Stop, Final and Rewind.

Empty Stitches at the Start: Defines the number of empty stitches or jumps stitches (with no information) that will be inserted at the beginning of the design for those embroidery machines that require these stitches in order to synchronize.

Borer offset (horizontal and vertical): Compensates the borer device offset with respect to the needle position.

Delete Empty Stitches: Filters all the empty stitches (without displacement) excluding those associated to commands (for example: cut, stop, Empty stitches at the beginning, etc.)

Automatic Centering of Design: Adds a displacement at the beginning of the design (if necessary) in order to make the design begin in its center.

Automatic Return to Start Point: Inserts a displacement at the end of design (if necessary) so it ends at the same spot where it started.

Add Needle Selection at the Starting: It automatically inserts a Needle Selection command at the beginning of design for the machine to select the proper needle before it starts embroidering. This function is recommended only for those machines that require its use unavoidably.

Return to the First Needle at the End: Defines if it goes back to the first needle once the embroidery has finished.

Optimize Number of Stitches: Defines the way in which the stitches will be performed during the extra large displacements.

(a) If you choose this option the system will produce a maximum length jump stitch and then a stitch until displacement is completed. In this way the minimum amount of possible stitches will be generated.

(b) If this option is not selected the system will produce jumps stitches and a stitch, all with the same value, until displacement is completed. The number of stitches produced will not be the minimum but the displacement will be softer.



Control Mapping: Defines the data sequences that will be sent to the machine for correct running of a command. A machine command can be represented by data concerning stitch and control type. When you export the design through any media type, the existent command in the design will be replaced by the indicated sequence, from the active machines profile.

Mapped Control: This command will be replaced by the indicated sequence in the controls mapping table.

Control Column: Defines which control will be associated to that row. When you click on any row of the Controls column, you can define and/or change the existing assignment.

Displacement in X: Allows you to assign a displacement in the X axis for that row of the command sequence.

Displacement in Y: Allows you to assign a displacement in the Y axis for that row of the command sequence.

Special: Allows you to define additional information for that sequence file. It is suggested not to introduce new values to this column unless it is indicated by a technical support expert.

Predefined Values

Instructions List: N= Needle, E= End, S= Stop, J= Jump stitch

Barudan FDR Standard / Barudan FMC Standard / Barudan HD

Configuration	Disk	Tape	Network
Disk code	Barudan FDR / Barudan FMC / Barudan HD	Barudan	Barudan
Maximum stitch length	12,7 mm	12,7 mm	12,7 mm
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0
Needles	7	7	7
Color instruction	N	N	N
End instruction	E	E	E
Empty stitches at beginning	2 J	2 J	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	12,0 mm	12,0 mm	12,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	YES	YES	YES
Optimize number of stitches	NO	NO	NO

Brother Standard / Brother PEC / Brother PHB / Brother PHC

Configuration	Disk	Tape	Network
Disk code	Brother	ZSK	Native
Maximum stitch length	12,7 mm	12,7 mm	12,7 mm
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	NO	NO	NO
Jumpstitch in thread cut	0	0	0
Needles	16	1	1
Color instruction	N	S	S
End instruction	E	E	E
Empty stitches at beginning	None	None	None
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	0,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	NO	NO	NO
Automatic return to origin	NO	NO	NO
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	NO	NO
Optimize number of stitches	NO	NO	NO

Elna-Janome – Standard / Generic

Configuration	Disk	Tape	Network
Disk code	Elna/Janome Native (Generic)	ZSK	Native
Maximum stitch length	12,7 mm	12,7 mm	12,7 mm
Maximum jumpstitch length	12,7 mm	9,0 mm	12,7 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0
Needles	16	11	16
Color instruction	N	N	N
End instruction	E	E	E
Empty stitches at beginning	None	2 J	None
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	18,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	NO	YES	NO
Automatic return to origin	NO	YES	NO
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	YES	NO
Optimize number of stitches	NO	NO	NO

Generic PLK

Configuration	Disk	Tape	Network
<i>Disk code</i>	Native	ZSK	Native
<i>Maximum stitch length</i>	6,2 mm	12,7 mm	12,7 mm
<i>Maximum jumpstitch length</i>	2,0 mm	9,0 mm	12,7 mm
<i>Automatic Thread Cut</i>	30,0 mm	30,0 mm	30,0 mm
<i>Jumpstitch in thread cut</i>	0	0	0
<i>Needles</i>	1	11	16
<i>Color instruction</i>	S	N	N
<i>End instruction</i>	E	E	E
<i>Empty stitches at beginning</i>	None	2 J	None
<i>Borer offset (x)</i>	0,0 mm	0,0 mm	0,0 mm
<i>Borer offset (y)</i>	0,0 mm	18,0 mm	0,0 mm
<i>Delete empty stitches</i>	YES	YES	YES
<i>Delete empty jumps</i>	YES	YES	YES
<i>Automatic Centering</i>	YES	YES	NO
<i>Automatic return to origin</i>	YES	YES	NO
<i>Add needle selection at beginning</i>	NO	NO	NO
<i>Return to first needle in the end</i>	NO	YES	NO
<i>Optimize number of stitches</i>	YES	NO	NO

GMI Ela

Configuration	Disk	Tape	Network
<i>Disk code</i>	GMI Ela	Tajima	Native
<i>Maximum stitch length</i>	12,7 mm	12,1 mm	12,7 mm
<i>Maximum jumpstitch length</i>	12,7 mm	12,1 mm	12,7 mm
<i>Automatic Thread Cut</i>	NO	NO	NO
<i>Jumpstitch in thread cut</i>	0	0	0
<i>Needles</i>	16	1	16
<i>Color instruction</i>	N	S	N
<i>End instruction</i>	E	E	E
<i>Empty stitches at beginning</i>	None	None	None
<i>Borer offset (x)</i>	0,0 mm	0,0 mm	0,0 mm
<i>Borer offset (y)</i>	0,0 mm	18,0 mm	0,0 mm
<i>Delete empty stitches</i>	NO	NO	NO
<i>Delete empty jumps</i>	NO	NO	NO
<i>Automatic Centering</i>	NO	NO	NO
<i>Automatic return to origin</i>	NO	NO	NO
<i>Add needle selection at beginning</i>	NO	NO	NO
<i>Return to first needle in the end</i>	NO	NO	NO

Optimize number of stitches	NO	NO	NO
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Happy – Standard

Configuration	Disk	Tape	Network
Disk code	Happy	ZSK	Barudan
Maximum stitch length	12,1 mm	12,1 mm	12,1 mm
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0
Needles	1	7	7
Color instruction	S	N	N
End instruction	E	E	E
Empty stitches at beginning	2 J	2 J	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	12,0 mm	12,0 mm	12,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	YES	YES
Optimize number of stitches	NO	NO	NO

Husqvarna – Standard / Husqvarna Viking VIP - Standard

Configuration	Disk	Tape	Network
Disk code	Husqvarna	Tajima	Tajima
Maximum stitch length	12,1 mm	12,1 mm	12,1 mm
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	0,1 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	3	3
Needles	16	1	1
Color instruction	N	S	S
End instruction	E	E	E
Empty stitches at beginning	None	2 J	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	12,0 mm	12,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	NO	YES	YES
Automatic return to origin	NO	YES	YES
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	NO	NO
Optimize number of stitches	NO	NO	NO

Imbro - Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Imbro</i>	<i>ZSK</i>	<i>Imbro</i>
<i>Maximum stitch length</i>	<i>8,0 mm</i>	<i>12,7 mm</i>	<i>8,0 mm</i>
<i>Maximum jumpstitch length</i>	<i>3,0 mm</i>	<i>9,0 mm</i>	<i>3,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Needles</i>	<i>1</i>	<i>11</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>N</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>2 J</i>	<i>None</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>18,0 mm</i>	<i>0,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic return to origin</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>YES</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Juki 212C

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Juki Ams</i>	<i>ZSK</i>	<i>Native</i>
<i>Maximum stitch length</i>	<i>10,0 mm</i>	<i>12,7 mm</i>	<i>12,7 mm</i>
<i>Maximum jumpstitch length</i>	<i>1,0 mm</i>	<i>9,0 mm</i>	<i>12,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Needles</i>	<i>1</i>	<i>11</i>	<i>16</i>
<i>Color instruction</i>	<i>S</i>	<i>N</i>	<i>N</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>2 J</i>	<i>None</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>18,0 mm</i>	<i>0,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>NO</i>
<i>Automatic return to origin</i>	<i>NO</i>	<i>YES</i>	<i>NO</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>YES</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Komtekct – Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Komtekct</i>	<i>ZSK</i>	<i>Komtekct</i>
<i>Maximum stitch length</i>	<i>12,7 mm</i>	<i>12,7 mm</i>	<i>12,7 mm</i>
<i>Maximum jumpstitch length</i>	<i>12,7 mm</i>	<i>9,0 mm</i>	<i>12,7 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Needles</i>	<i>1</i>	<i>11</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>N</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>2 J</i>	<i>None</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>18,0 mm</i>	<i>0,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>NO</i>	<i>YES</i>	<i>NO</i>
<i>Automatic return to origin</i>	<i>NO</i>	<i>YES</i>	<i>NO</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>YES</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Melco Exp – Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Melco Exp.</i>	<i>Tajima</i>	<i>Native</i>
<i>Maximum stitch length</i>	<i>12,7 mm</i>	<i>12,1 mm</i>	<i>12,7 mm</i>
<i>Maximum jumpstitch length</i>	<i>9,0 mm</i>	<i>9,0 mm</i>	<i>9,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>3</i>	<i>8</i>	<i>0</i>
<i>Needles</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>None</i>	<i>None</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic return to origin</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>



Mitsubishi PLK – Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Mitsubishi</i>	<i>Tajima</i>	<i>PLK EPROM</i>
<i>Maximum stitch length</i>	<i>6,2 mm</i>	<i>6,2 mm</i>	<i>6,2 mm</i>
<i>Maximum jumpstitch length</i>	<i>2,0 mm</i>	<i>2,0 mm</i>	<i>2,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Needles</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>None</i>	<i>None</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>NO</i>
<i>Automatic return to origin</i>	<i>YES</i>	<i>YES</i>	<i>NO</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>YES</i>	<i>YES</i>

Mitsubishi PLK-A – Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Mitsubishi</i>	<i>Tajima</i>	<i>Native</i>
<i>Maximum stitch length</i>	<i>12,7 mm</i>	<i>12,1 mm</i>	<i>5,5 mm</i>
<i>Maximum jumpstitch length</i>	<i>12,7 mm</i>	<i>12,1 mm</i>	<i>3,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>3</i>	<i>0</i>
<i>Needles</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>None</i>	<i>None</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic return to origin</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Pfaff – Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Pfaff</i>	<i>Tajima</i>	<i>Tajima</i>
<i>Maximum stitch length</i>	<i>12,7 mm</i>	<i>12,1 mm</i>	<i>12,1 mm</i>
<i>Maximum jumpstitch length</i>	<i>12,7 mm</i>	<i>9,0 mm</i>	<i>9,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Needles</i>	<i>6</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>N</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>2 J</i>	<i>2 J</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>12,0 mm</i>	<i>12,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Automatic return to origin</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Pfaff PCD – Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Pfaff</i>	<i>Tajima</i>	<i>Tajima</i>
<i>Maximum stitch length</i>	<i>12,7 mm</i>	<i>12,1 mm</i>	<i>12,1 mm</i>
<i>Maximum jumpstitch length</i>	<i>12,7 mm</i>	<i>9,0 mm</i>	<i>9,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Needles</i>	<i>6</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>N</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>2 J</i>	<i>2 J</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>0,0 mm</i>	<i>12,0 mm</i>	<i>12,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>NO</i>	<i>YES</i>	<i>YES</i>
<i>Automatic return to origin</i>	<i>NO</i>	<i>YES</i>	<i>YES</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>



Pfaff PCM – Standard / Pfaff PCS - Standard

Configuration	Disk	Tape	Network
Disk code	Pfaff PCM / PCS	ZSK	Native
Maximum stitch length	12,7 mm	12,7 mm	12,7 mm
Maximum jumpstitch length	12,7 mm	9,0 mm	9,0 mm
Automatic Thread Cut	0,1 mm	0,1 mm	0,0 mm
Jumpstitch in thread cut	0	0	0
Needles	16	1	1
Color instruction	N	S	S
End instruction	E	E	E
Empty stitches at beginning	None	None	None
Borer offset (x) (y)	0,0 mm	0,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	NO	NO	NO
Automatic return to origin	NO	NO	NO
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	NO	NO
Optimize number of stitches	NO	NO	NO

Sierra – 120 / Sierra – 40 / Sierra – 60 / Sierra – 90

Configuration	Disk	Tape	Network
Disk code	Sierra	ZSK	ZSK
Maximum stitch length	12,0 mm (Sierra – 120) 4,0 mm (Sierra - 40) 6,0 mm (Sierra – 60) 9,0 mm (Sierra – 90)	12,0 mm (Sierra – 120) 4,0 mm (Sierra - 40) 6,0 mm (Sierra – 60) 9,0 mm (Sierra – 90)	12,0 mm (Sierra – 120) 4,0 mm (Sierra - 40) 6,0 mm (Sierra – 60) 9,0 mm (Sierra – 90)
Maximum jumpstitch length	12,0 mm (Sierra – 120) 4,0 mm (Sierra - 40) 6,0 mm (Sierra – 60) 9,0 mm (Sierra – 90)	12,0 mm (Sierra – 120) 4,0 mm (Sierra - 40) 6,0 mm (Sierra – 60) 9,0 mm (Sierra – 90)	12,0 mm (Sierra – 120) 4,0 mm (Sierra - 40) 6,0 mm (Sierra – 60) 9,0 mm (Sierra – 90)
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0
Needles	16	11	11
Color instruction	N	N	N
End instruction	E	E	E
Empty stitches at beginning	None	None 2 J (Sierra – 90)	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	0,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES

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Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	YES	YES	YES
Optimize number of stitches	NO	NO	NO

Siruba – Standard

Configuration	Disk	Tape	Network
Disk code	Siruba	Tajima	Tajima
Maximum stitch length	12,7 mm	10,0 mm	10,0 mm
Maximum jumpstitch length	12,7 mm	12,1 mm	12,1 mm
Automatic Thread Cut	NO	NO	NO
Jumpstitch in thread cut	0	0	0
Needles	1	1	1
Color instruction	S	S	S
End instruction	E	E	E
Empty stitches at beginning	None	None	None
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	0,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	NO	NO
Optimize number of stitches	NO	NO	NO

Sunstar – Standard / Sunstar SWF – Standard

Configuration	Disk	Tape	Network
Disk code	Tajima (Sunstar – Standard) Sunstar SWF	Tajima	ZSK
Maximum stitch length	12,1 mm	12,1 mm	12,1 mm
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	3	3	0
Needles	1	1	1
Color instruction	S	S	S
End instruction	E	E	E
Empty stitches at beginning	2 J	2 J	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	0,0 mm	12,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES
Add needle selection at beginning	NO	NO	NO



<i>Return to first needle in the end</i>	NO	NO	YES
<i>Optimize number of stitches</i>	NO	NO	NO

Tajima – PLK

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Tajima</i>	<i>Tajima</i>	<i>Tajima</i>
<i>Maximum stitch length</i>	<i>6,2 mm</i>	<i>12,1 mm</i>	<i>12,1 mm</i>
<i>Maximum jumpstitch length</i>	<i>2,0 mm</i>	<i>9,0 mm</i>	<i>9,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>3</i>	<i>3</i>	<i>3</i>
<i>Needles</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>None</i>	<i>2 J</i>	<i>2 J</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>12,0 mm</i>	<i>12,0 mm</i>	<i>12,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic return to origin</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>YES</i>	<i>NO</i>	<i>NO</i>

Tajima- Standard

Configuration	Disk	Tape	Network
<i>Disk code</i>	<i>Tajima</i>	<i>Tajima</i>	<i>Tajima</i>
<i>Maximum stitch length</i>	<i>12,1 mm</i>	<i>12,1 mm</i>	<i>12,1 mm</i>
<i>Maximum jumpstitch length</i>	<i>9,0 mm</i>	<i>9,0 mm</i>	<i>9,0 mm</i>
<i>Automatic Thread Cut</i>	<i>30,0 mm</i>	<i>30,0 mm</i>	<i>30,0 mm</i>
<i>Jumpstitch in thread cut</i>	<i>3</i>	<i>3</i>	<i>3</i>
<i>Needles</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>Color instruction</i>	<i>S</i>	<i>S</i>	<i>S</i>
<i>End instruction</i>	<i>E</i>	<i>E</i>	<i>E</i>
<i>Empty stitches at beginning</i>	<i>2 J</i>	<i>2 J</i>	<i>2 J</i>
<i>Borer offset (x)</i>	<i>0,0 mm</i>	<i>0,0 mm</i>	<i>0,0 mm</i>
<i>Borer offset (y)</i>	<i>12,0 mm</i>	<i>12,0 mm</i>	<i>12,0 mm</i>
<i>Delete empty stitches</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Delete empty jumps</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic Centering</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Automatic return to origin</i>	<i>YES</i>	<i>YES</i>	<i>YES</i>
<i>Add needle selection at beginning</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Return to first needle in the end</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>
<i>Optimize number of stitches</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Toyota – 850 B / Toyota 860 / Toyota – Standard / Toyota – Standard 2

Configuration	Disk	Tape	Network
Disk code	Toyota	Tajima	Toyota (Toyota – 850 B / Toyota 860) Tajima for (Toyota – Standard / Toyota – Standard 2)
Maximum stitch length	12,7 mm	12,1 mm	12,7 mm (Toyota – 850 B / Toyota 860) 12,1 mm (Toyota – Standard / Toyota – Standard 2)
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0 (Toyota – 850 B / Toyota 860) 3 (Toyota – Standard / Toyota - Standard 2)
Needles	1	1	1
Color instruction	S	S	S
End instruction	E	E	E
Empty stitches at beginning	2 J	2 J	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	0,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	NO	NO
Optimize number of stitches	NO	NO	NO

ZGM – Standard

Configuration	Disk	Tape	Network
Disk code	Tajima	ZSK	ZGM
Maximum stitch length	12,7 mm	12,7 mm	12,1 mm
Maximum jumpstitch length	12,7 mm	9,0 mm	12,1 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0
Needles	32	11	16
Color instruction	N	N	N
End instruction	E	E	E
Empty stitches at beginning	None	2 S	None
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	0,0 mm	18,0 mm	0,0 mm
Delete empty stitches	YES	YES	YES



Delete empty jumps	YES	YES	YES
Automatic Centering	NO	YES	NO
Automatic return to origin	NO	YES	NO
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	NO	YES	NO
Optimize number of stitches	NO	NO	NO

ZSK – Standard

Configuration	Disk	Tape	Network
Disk code	ZSK	ZSK	ZSK
Maximum stitch length	12,7 mm	12,7 mm	12,7 mm
Maximum jumpstitch length	9,0 mm	9,0 mm	9,0 mm
Automatic Thread Cut	30,0 mm	30,0 mm	30,0 mm
Jumpstitch in thread cut	0	0	0
Needles	11	11	11
Color instruction	N	N	N
End instruction	E	E	E
Empty stitches at beginning	2 J	2 J	2 J
Borer offset (x)	0,0 mm	0,0 mm	0,0 mm
Borer offset (y)	18,0 mm	18,0 mm	18,0 mm
Delete empty stitches	YES	YES	YES
Delete empty jumps	YES	YES	YES
Automatic Centering	YES	YES	YES
Automatic return to origin	YES	YES	YES
Add needle selection at beginning	NO	NO	NO
Return to first needle in the end	YES	YES	YES
Optimize number of stitches	NO	NO	NO

Connecting and Sending to machines

This box allows you to create and manage the available embroidery machines; letting you send designs to the machine from *Embroidery Explorer* or *Stitch Era*.

This application allows you to send the design to the machine through the corresponding function of the Machine Connection Manager.

Connection to Machine

Some embroidery machines allow receiving the embroidery information through a connector from an external device or computer. This is an optional function.

Each machine model has its own connection type which differs from the rest. For that reason you must specify the machine you want to connect in order to verify its compatibility, also remember to follow the installation and configuration instructions of each model in particular.

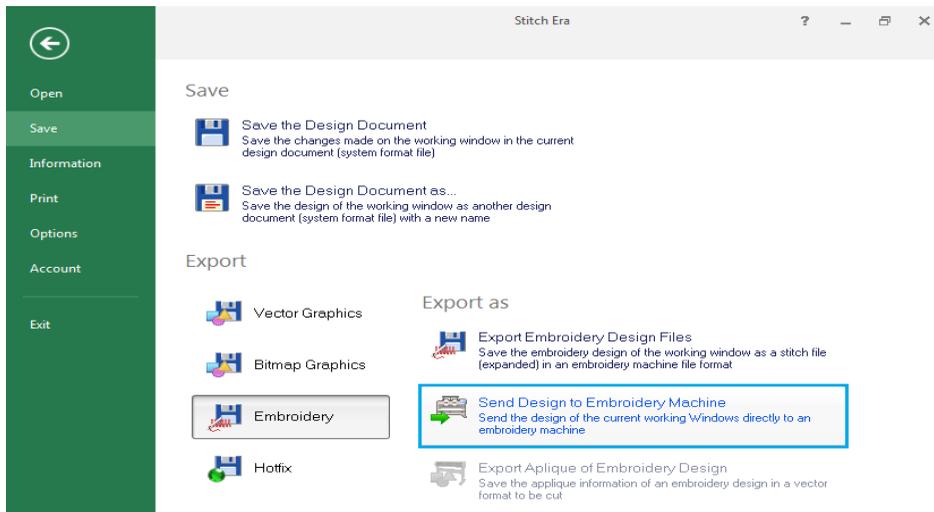
All these type of connections can work simultaneously. You can also connect several machines to only one computer.

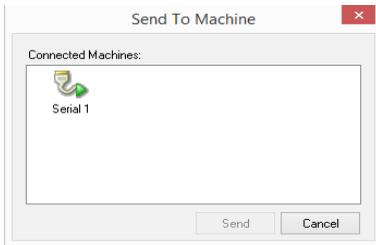
From the *Add Machine* button of the *EO Machine Connection Manager* window you can link with a machine if you are using any of the connection types supported by the application. In order to install correctly follow the steps described in both the embroidery machine and the type of connection chosen.

Note: The models can use different hardware pieces, sometimes, a misconnection can produce irreversible damages to the computer, the devices to be connected or the embroidery machine.

Send to Machine

To send the active embroidery design to an embroidery machine (which connection has been previously installed and configured); run the command *Send Design to Embroidery Machine* from the *FILE* page > *Save* group > *Export* > *Export as...*





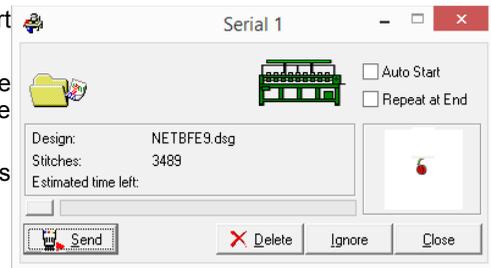
When the Send to Machine box appears (left figure) choose the machine to be used (you may have more than one machine) and press Send.

The design will remain in the embroidery queue, you will be able to see its image in the dialog box; at that moment prepare the embroidery machine and the connection device if you did not do this before.

Another box will open. Click on *Send* to start your transmission (right figure).

From the *Delete* button you will be able to delete the design from the embroidery queue, delete the connection or edit its properties.

The progress bar will evolve until the design is totally transmitted.



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