Embroidery Legacy Digitizing User's Guide

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Chapter 2 Creating Design Shapes & Adjusting Settings

CHAPTER 1

About the Workspace

Before you start using the software, we recommend that you understand the Embroidery Legacy Digitizing design workspace and learn a few of the basic components outlined in this section.

Topics covered in this chapter:

- Overview of the Workspace, including a brief description of all the tools icon.
- Description of the toolbars, with a list of all the tools and their icons
- Setting up the design workspace environment.
- Customizing the properties of your workspace

System Requirements

The following are a list of the system requirement for your computer to operate the Embroidery Legacy software.

- Microsoft® Windows® 10 or 11 operating system.
- Processing unit: Multicore Intel® or AMD processor, 2 GHz with 64-bit support
- 8 GB RAM
- Minimum 1 GB available hard disk space:
- Monitor with display resolution of at least 1366×768

Parts of the Workspace

The Embroidery Legacy Digitizing workspace contains several areas. The image below shows the workspace, and the sections that follow give a brief description of the properties/functions of each.

The Toolbars

Around the outside of the workspace, you will see the Embroidery Legacy Digitizing toolbars. On these toolbars, you will see icons for all the tools that you can use to open, save, print, edit, and adjust properties of the designs you create - as well as many other functions.

Note that you can “hover-over” each tool icon to see a tool tip which identifies that tool; these tool tips are not available on the iPad version of the application, however.

The table identifies each or these tool icons, and lists a brief description of each.
For more detailed information on each of these tools, please refer to the corresponding procedures, later in this guide

Main (top) Toolbar.

Tool	What it does
	Menu (“dots”) tool: Open a menu which allows you to show and hide items in the workspace, e.g. stitches, stitch points, and entry/exit point.
	Library Tool: Opens a dialog which you can use to search your computer and network for designs.
	New: Creates a new untitled design with the Normal style settings.
	Change Recipe: Opens the Change Recipe dialog, which is used to change the overall design properties to suit the fabric/garment type that the design will be sewn on.

Tool	What it does
	**Open:** Opens an existing design file. Also, allows you to merge stitch files into the current design.
	**Merge**: Used to insert an existing embroidery design into the current design workspace.
	**Save As:** Opens the "Save as" dialog, which allow to select the format and directory in which to save the current design.
	**Print:** Opens the print preview window, which in turn will let you print the current design.
	**Undo:** Reverses your last action.
	**Redo:** Reverses the action of the Undo command.
	**Cut:** Cuts the selection and copies it to the clipboard.
	**Copy:** Copies the selection to the clipboard.
	**Paste:** Pastes the clipboard contents into the design, at the end of the design sequence.
	**Delete**: Deletes the currently selected segment.
	**Group:** Combines several segments into a group so that they can be treated as a single unit.
	**Ungroup:** When applied to a set of grouped segments, separates them into individual segments again.
	**Quick rotate**: Open a fly-out list with a list of tools that allow you to apply quick 45º and 90º rotations to an item.
	**Align**: Opens a pop-up list of the alignment tools.

Tool	What it does
	**Distribute**: Opens a pop-up list of the distribute tools.
	**Flip:** Click to display a set of tools that allow you to flip the selected items across a vertical or horizontal axis.
	**Arrange** options: Opens a menu giving access to the Arrange on Path, Circle Arrange on Corner and Scatter tools.
	**Hoop:** Displays the design as it fits relative to the embroidery hoop. Clicking this button a second time will turn the view off.
	**Grid:** Displays a background grid, which helps with alignment. This grid can be used for the alignment of items on the display.
	**Ruler:** Measures the distance across any two points.
	**Redraw Bar:** Shows and hides the Redraw bar, a tool that allows you to view the order of sew-out stitch by stitch.
	**Units**: Click to toggle the measurements between inches and mm.
	**Napdown:** Adds a layer of perpendicular stitching to hold down the fibers of pile material.
	**Color Sort:** Re-orders segments to optimize sewing by reducing the number of color changes required.
	**Baste**: Generate a basting run stitch around the outside of the current design.
	**Fit to Hoop:** Resizes the selected segment (or segments) to fit in the current hoop.
	**Properties:** Opens the properties pane to display properties of the design - such as artwork fill properties, artwork pen properties, text properties, and so on.

Tool	What it does
	**Sequence View:** Opens the Sequence View panel, which displays all of the segments the current design grouped by thread color.
	**Widget:** Shows and hides the Widget palette, which gives you access to the various Embroidery Legacy Digitizing drawing tools.

Workspace Toolbar

Tool Icon	What it does
	**Select:** Selects objects in the design window.
	**Select All:** Selects all objects in the current design workspace.
	**3D:** Realistically renders your design onscreen.
	**View**: Opens a menu of tools that adjust the adjust the scale of the design in the workspace, including Fit to screen, Fit selection, and the Zoom tools.
	**Pan:** Allows you to move the design area around.
	**Zoom:** Increase or decrease the magnification of the design in the workspace window.
	**Text:** Opens a fly-out menu containing the text tools (Text, Circle, Vertical and Monogram).
	**Select Text**: Used to select an existing text segment to make adjustments to individual letters and/or kerning.
	**Import Vector Art:** Opens a dialog that allows you to add vector files to an existing embroidery design.

Tool Icon	What it does
	**Load Backdrop**: Opens a dialog that allows you to import an image into the design workspace. Additionally, click to open a menu containing the **View backdrop** and **Select backdrop** tools.
	**Brush**: Opens a fly-out menu, from which you can select any of the brush-type tools.
	**Draw**: Opens a fly-out menu of artwork drawing tools, including Line, Bezier, and Fast Draw.
	**Close Shape:** Closes an open shape by joining the end points.
	**Convert tools:** Opens a drop-down menu containing the convert to embroidery tools (e.g. Run, Steil, Satin, etc.).
	**Shape Edit:** Opens a menu of tools that relate to editing of segment outlines, including the Path Edit, Inclination Edit, and Slice tools.
	**Automatic Branching:** Optimizes the sequence of segments in a design to minimize the number of trims and jumps needed overall.
	**Auto Tie**: Adds tie-on and tie-off stitches where needed in the current design.
	**Snap to Anchors:** Turns on the “snap to” functionality. When enabled, the initial point of a segment you draw will be “snapped” to the end anchor point of an existing segment, if they overlap.
	**Smart Join:** When selected, the start and stop points of adjacent segments will be adjusted to minimize the length of connections between them.
	**Artwork Edit tools**: Click to open a fly out list of tools that can be applied to the selected outline segments, such as Combine, Breakup, Weld, etc.

Tool Icon	What it does
	Specialty: Opens a list of special design creation tools.
	Stitch Select: Enables the designer to select and move individual stitches.
	Auto Digitize: Opens a "wizard" type dialog that assists you in creating embroidery from an image file.
	Photo Stitch: Creates an embroidery design from an imported image file in a single step.

Convert Toolbar

The Convert tools are found in a toolbar along the bottom of the workspace. These are used to convert the selected segment to the embroidery you want to used in the final design. The Convert tools can be applied to any segment containing outlines,
For more information on how the conversion tools, refer to "Drawing Design Shapes—Embroidery Conversion Tools."

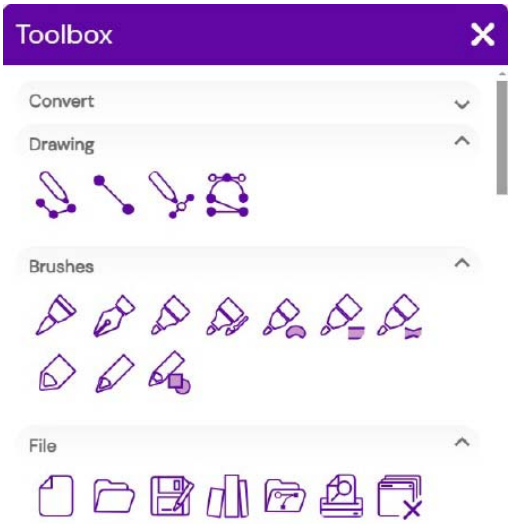
Icon	Embroidery Type
	Run Stitch
	Motif run stitch
	Steil path
	Jagged Steil
	Steil with Run
	Satin column

Icon	Embroidery Type
	Jagged Satin
	Gradient Satin
	Color Blend Satin
	Auto Satin column
	Complex fill
	Fancy fill
	Motif fill
	Gradient Fill
	Wave Fill
	Color Blend Fill
	Wave Gradient Fail
	Wave Color Blend Fill
	Appliqué segment
	Artwork (outlines with no stitches
	Convert to perfect circle
	Convert to perfect square

Toolbox

The Toolbox is a different way to view and use the Embroidery Legacy tools. In the Toolbox individual tool are organized into categories, also known as Toolbox “drawers”, such as Edit, Artwork, File and so on.

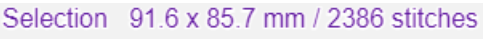
You can quickly locate the tools you need by opening the appropriate “drawer” in the Toolbox.



- To open the Toolbox, click the icon on the Main toolbar.

Status Line

The Status Line appears at top-right corner of the design workspace. When there are no items (segments) selected, the Status line displays the overall dimensions of the design (width × height), along with the number of stitches.



When you have selected an individual segment, or a group of segments, the status line will display the dimensions and stitch number for that selection only. (Note that the line will be preceded by the word “Selection” in this case; when no segment or segments are selected, it will be labelled with the name of the open design).

Opening and Saving Designs

When you open Embroidery Legacy Digitizing, you can immediately begin creating a new design by drawing in the workspace with the Widget tools. If a design is already open in the workspace, and you want start a brand-new design, simply press the New design icon. You will see a dialog, asking if you want to save the current design, or discard your changes (if there are any changes since it was last saved). Choose “Discard” to immediately open the new design, or “Cancel” to return to the current design to save it.

If you select the **Open** tool while a design is already open in you application, it will open in a new tab workspace.

Opening Designs

To open an existing design:

1 To open an existing design, click the Open Design tool.

You see the Open Design dialog.

2 In the **Look in** list, browse to the location of the file you want to open.
3 Click in the **Files of type field**, select the desired file type from drop-down list.
4 In the File name box select the file you want to open by clicking the file.
5 (Optional) Check the Convert to Outlines box; this option will only be applicable if the design is in a stitch (machine-type) file. When selected, the design's stitch segments will be converted to outlines, allowing you to select the segments individually and edit them.
6 Click Open.

Saving a Design

You can use the Save As to save designs as an outline format in a number of different machine file formats.

If you are saving your design from the tablet version of Embroidery Legacy Digitizing, you can only save them in the.JDS format. In order to save a design in machine format, you must open the JDS file in the desktop version of the software and save it from there.

The Save As tool permits you to save the current design in its current form and start a different, new embroidery design. By default, the file will be saved in the JDX format, also known as the "working file" format. However, you can also use this function to save a design in a wide variety of embroidery machine formats.

Embroidery Legacy Digitizing includes an "Autosave Design" function, which will automatically save the current design once a minute. If you need to restore the last iteration of your design, click the "dots" icon and select "Restore Autosaved" from the menu that appears.

"Autosave Design" is enabled by default. If you want to disable it to reduce the number of "saves" your device is performing, you can do so by de-selecting the option on the Settings dialog–General tab.

To save a design:

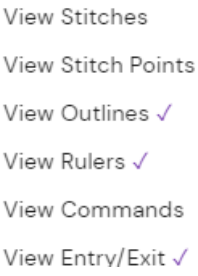
1 Click the Save As tool.
You see the Save As dialog box.
2 In the Save in list, browse to the location you want to save your file.
3 In the File Name box, enter the file name for the design you want to be saved.
4 In the Save As type list, click the down arrow on the right to select the file type you want the design to be saved as.
5 Click Save.

Another way to save is by clicking the dots icon on the toolbar, and selecting **Save** from the list of options.

Viewing Options

The Menu tool gives access to a list of show/hide various aspects of the current design, including stitch points, stitches, commands and entry/exit beads.

To show and hide the beads and commands, click the dots ⋮ icon to open the list of available workspace symbols.



Click on the item you want to have shown in the workspace, or if it is already visible, click to hide it. The list will close automatically after you select an item to show/hide.

- **View Stitches**: Displays a preview of the stitches in the workspace.
- **View Stitch Points:** Displays the penetration points of the stitches; the points appears as small black dots.
- **View Outlines**: Displays the paths, or outlines, of each segment.
- **View Entry/Exit:** Shows the position of the first and last points in the sewing of a segment.
- **View Commands:** Displays the icons that for color changes and trims.

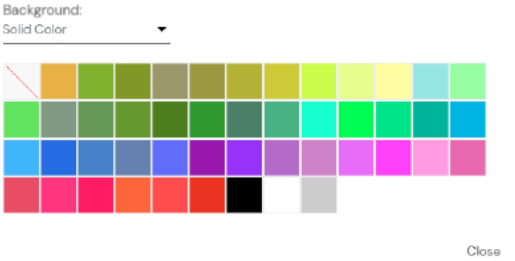
Selecting the Canvas Color

There is a quick way to change the color of the workspace background, also known as the "Canvas Color." Using this control, you can choose a new canvas color for the workspace, so as to better contrast with the embroidery in your design.

There is also an option to select one of a number of fabric images to use as your workspace canvas.

To change the Canvas Color, do the following:

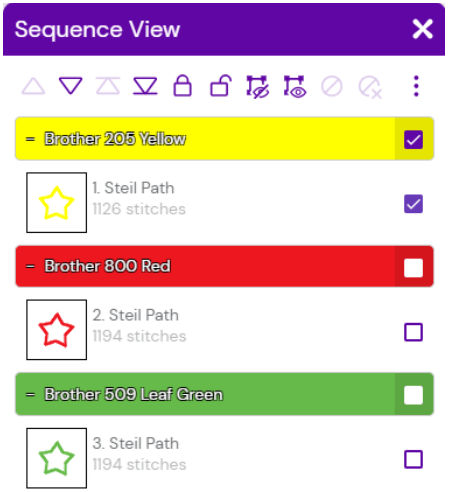
1. Select the "dots" ⋮ icon.
2. From the drop-down list, select Canvas Color.
   You see the background dialog.



3. (Option) To select a fabric swatch instead of a solid color, click the combo box in the top-left of the dialog, and select "Fabric."
4. Click the desired color/fabric swatch to select it.
5. Click OK.
   The color will be applied to the workspace.

Sequence View

Sequence View allows you to view information that takes the form of branches. For instance, each color in your design will have different lines of stitching in that color. You can also select outlines and stitches in the Sequence View by clicking on them.



You can use the sequence view to select multiple segments in the workspace; do this by checking the box to the right of the segment color or thumbnail. Once selected in this way the segments can be grouped together, or joined up using the Combine tool (provided that they are outline segments.

Be careful.when selecting segments in the Sequence View, that you do not subsequently select a different segment in the workspace by clicking on it. This will deselect the segments that are already selected.

The Sequence View control allows you to expand and contract branches (colors) allowing you to show or hide the individual outline segments inside them. You open and close the branches of the control by clicking on the + (plus) and – (minus) signs in front of the branch name.

The sequence view also displays the number of stitches in each individual segment. This information appears underneath the thread color name.

To show or hide the Sequence View, click the Sequence View tool.

Redraw Bar

The Redraw Bar is located along the lower edge of the design window. You can use this tool to preview the sew-out of your design on-screen.

if the Redraw controls are not visible, you can show them by selecting the Redraw icon on the main toolbar.

The Redraw bar simulates how the whole design will appear as it is sewn out on the embroidery machine. There are three controls on this tool:

- Press the **Play** ▶ button to start the sewing simulation; the simulator will start with the first stitch in the design and proceed in order to the stop point.
- Press the **Stop** ■ button to stop the simulation (the simulator will go to the

design end point, i.e. all stitches will be shown).

- Press the **Rewind** button to go back to the beginning of the design; the simulator will return to the starting point of the design.

Color Palette

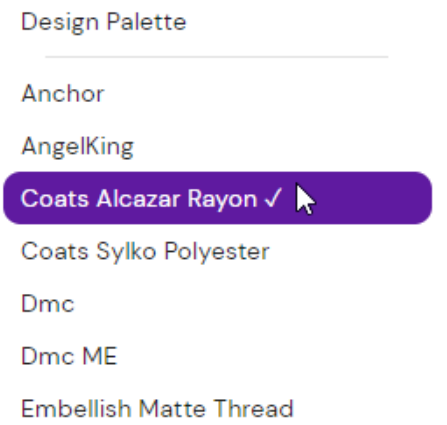
The Palettes panel displays a list of the thread colors that are available to use in the current design. The this panel also allows you to choose from a list of different thread color charts that come loaded with the software.

Selecting the Thread Chart

Design Doolder comes with a large variety of the most popular manufacturers' thread charts installed. In the dialog, you can choose from the list of charts, and this will become the current thread palette. You will then be able to use these new colors in the design.

To select a new thread chart:

1 Select the Palettes icon.
You see drop-down list of the available thread charts in the application.



2 Scroll down the desired chart, and click on the name to select it.
The colors in the Palette dialog will be updated accordingly.

Changing thread colors

You can easily change the colors of individual segments of your design using the Palettes dialog.

To change colors:

1 Select a design segment, or group of segments.
2 Select the Palettes icon.
3 The Palettes panel will open, displaying a list of the available colors in the current thread palette.
4 Select the color that you want to apply.
The color of the selected segment (or group) will change accordingly.
5 Repeat the above procedure for any other segments you want to re-color.
6 Save the design.

Thread color match

.Using the Color Match function, the threads in the current design palette can be exchanged with threads in a new palette of your choosing. This tool analyzes the colors in the current design and then swaps in colors from your chosen palette that match them most closely.

To use color match:

1 Open an embroidery design
2 In the Color Palette area, click the match palette icon.
3 You see "pop-out" list of the available thread charts.
4 From the list, select the color chart you want to use.
5 *The colors of the new chart will now be applied to the design.*

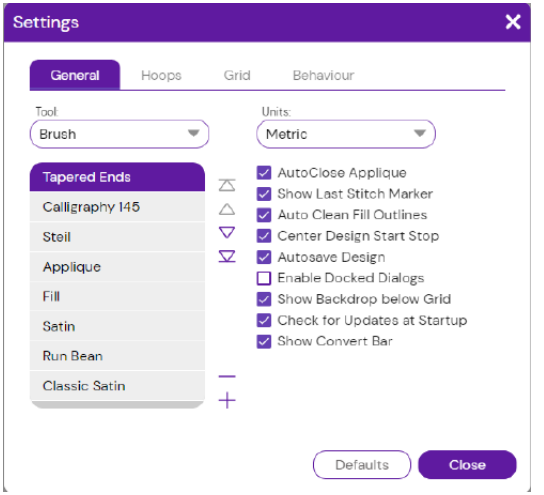
Adjusting Workspace Settings

The settings dialog enables you to make adjustments to aspects of your work environment in Embroidery Legacy Digitizing. There are three different pages on the settings dialog:

- **General Settings**, which includes the tool settings for the "Widget", the units settings, the "AutoClose Applique" setting, and the "Show Last Stitch Marker" setting.
- **View Settings:** Determines the visibility of some parts of the workspace, such as the highlighting of selected segments.
- **Hoop Settings**, which allow you to choose hoop type (that is, machine format) and size.
- **Grid settings**, which are used to determine the spacing, color and line style of the workspace grid.
- **Behavior settings,** which are used to choose how often stitches are generated.

To open the Settings dialog:

1 On the toolbar on the right side of the workspace, click the "viewing options" (dots) tool, which looks like this . *You see the Settings dialog.*



2 On the Settings dialog, select the General tab.
3 Adjust the Widget Tools preferences: In this area, you can configure the individual tools (also called "brushes") of the Widget tool. For example, you can add new values brush width, stitch density, or stitch length values. You can also remove such values that are not useful for you.
A detailed guide on how to configure the Widget tools is included with the

procedures for using the Widget, later in this guide; please see “Drawing Designs—Widget Preferences.”

4 Adjust any of the following settings:

- From the Units list, select the units of measurement you want used for your designs: Metric or English.

You can also select the units of measurement using the menu options available in your design workspace. Right-click on the ruler at the left or top of the window and select Metric or Inches.

5 Click Close.

General Settings – Widget Preferences

On the General tab, you can configure the Widget palette to your own specifications. For example, you can add or remove brush width, stitch density, or stitch length values on the palette, or remove values that are not useful for you.

For more details on how to configure the Widget Palette, see “Drawing Shapes with the Widget Tool—Widget Preferences.”

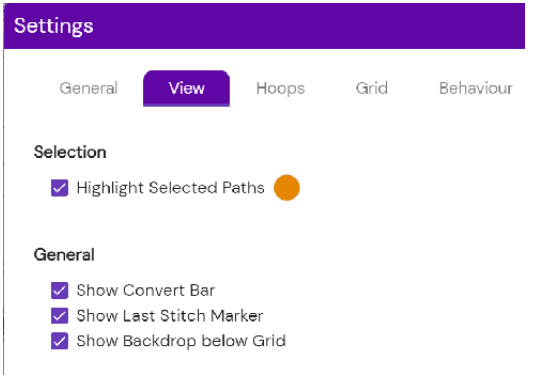
View Settings

The View Settings tab includes various options that workspace view. The effect that each of these settings is described briefly below.

To configure the View Settings:

1 Open the Settings dialog

2 In the Settings dialog, select the View tab.



3 On the View Settings page, select/deselect any of the following:

- **Highlight Selected Paths**: When enabled, the selected segment will be highlighted with an outline of color.
- **Highlight Color:** When Highlight selected paths” is check above, the color option will become editable. This is the filled circle immediately to the right of the Highlight Selected Paths option.
  Click on this circle to choose a new color from the color palette.
- **Show Convert Bar:** When enabled, the “Convert to” toolbar will be shown at the bottom of the workspace.
- **Show Last Stitch Marker:** When enabled, a marker (a small black square) will be appear in the workspace window to mark the last stitch in the design overall.
- **Show Backdrop Below Grid:** When enabled, the grid lines will appear on top of any backdrop image that is loaded into the workspace window.

4 Click Close.

Choosing a Hoop

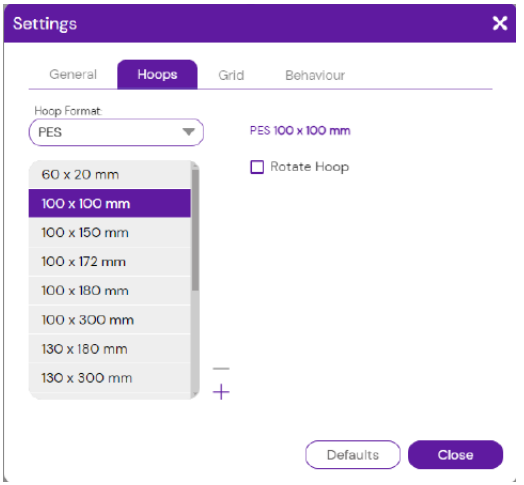
On the settings dialog, you can select the appropriate hoop for your design from a list pre-loaded hoops You will notice that you can select hoops of different machine extensions, corresponding to the machine type you are going to be using to sew the finished design.

The Hoop Settings page also has an option that lets you create and save your own custom hoops. This option allows you set the width and height of the custom hoop to any value you need.

To choose a hoop:

1 Open the Settings dialog

2 On the Settings dialog, select the Hoop tab.
You see hoop settings page.



3 From the Hoop Format drop-down list, select the machine format you want to use.
The list of hoops shown will change according to the format you select.

4 On the list of hoop sizes, select the one you want to use by clicking on it.
The dimensions of the selected hoop will be displayed on the right of the Hoop settings page.

5 (Optional) Check the Rotate Hoop box to rotate the hoop by 90-degrees. Use this option if turning the hoop relative to the design helps the design fit better.

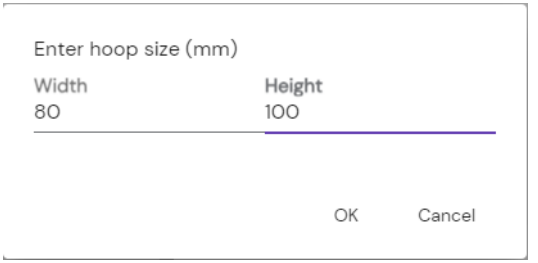
6 Click Close.
The chosen hoop will be displayed in the workspace.

To create a custom hoop:

1 Open the Settings dialog.

2 On the Settings dialog, select the Hoops tab.
You see Hoop settings page.

3 Click the small "plus" + sign at the bottom-right of the list of available hoops.
A new hoop size dialog opens.



4 Enter the custom hoop's height and width in the corresponding fields.

5 Click OK to close this dialog and save the new custom hoop.
You can now use your custom Hoop. Custom hoops appear in the "Custom" category of the Hoop Format list.

If you want to delete a Custom hoop at any time, select it in the list and silk the small "minus" sign on the Hoop settings page.

Fitting to the hoop

Use the Fit to Hoop tool to automatically scale the selected segment (or segments) in your design so that they fill the maximum size of a current hoop.Note that this process will regenerate stitches, if necessary.

To resize the segment to fit the hoop:

1 Open an existing design.
2 Select one or more segments in the design; if you want to select the whole design, press Ctrl.+ A on the keyboard.
3 On the Main toolbar click the Fit to Hoop tool.
The current design will automatically be resized to fill the current hoop.

Taking Measurements

The Ruler tool allows the digitizer to very quickly measure the distance between any two points in the design workspace.

Using the Ruler tool:

1 On the main toolbar, select the Ruler tool.
Note that the mouse pointer changes to a ruler icon.
2 Move the mouse over the point you want to measure from
3 Click and drag the mouse to the end point that you want to measure to.
The distance will be displayed in the "call out" box next to the mouse pointer.

The measurement units (inches or mm) that the Ruler displays can be set the General tab on the Settings dialog.

Grid Settings

The Grid Settings help you align and measure artwork and design elements. You can set the grid to measure in millimeters or inches, as you prefer. Show or hide the grid by selecting the Grid tool on the toolbars.

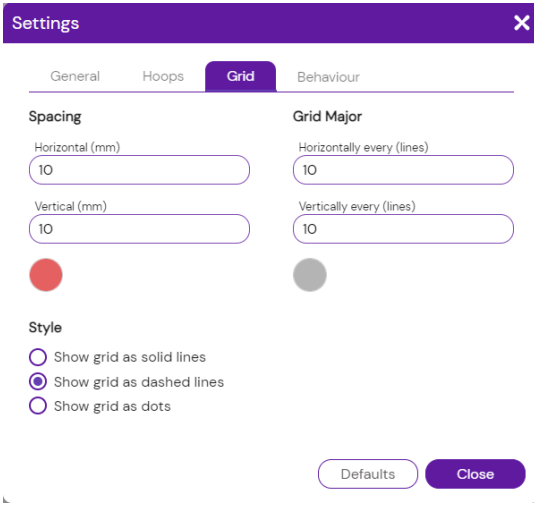
By default, every horizontal and vertical line will be highlighted in the major grid. If you want to have additional guide lines, you can add more major grid lines as well as a minor grid. You can increase the spacing values for the minor grid; however, zero and negative spacing values are not supported. The minor grid can also have different horizontal and vertical spacing values.

To make grid lines more visible on particular backgrounds, you can change the grid color; you can choose different colors for each of the "major" and "minor" grid.

To define grid settings:

1 Open the Settings dialog.

2 On the Settings dialog, select the Grid tab.
You see the Grid settings.



3 In the Spacing area, complete the following:
- In the Horizontal spacing field, enter the size of the horizontal spacing.
- In the Vertical spacing field, enter the size of the vertical spacing.
- If you want to change the color of the "spacing" lines, click in the color "dot" to select a new color.

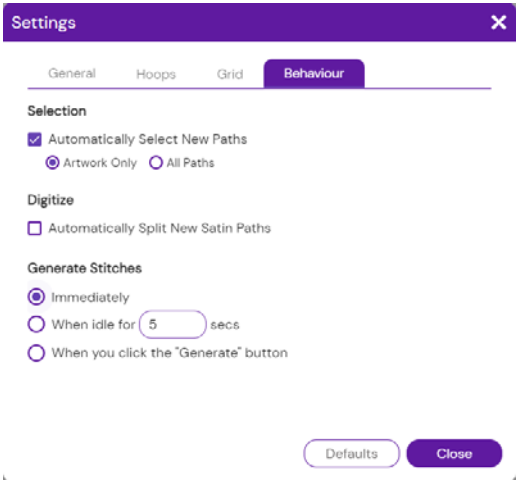
4 In the Grid Major area, complete the following:
- In the Horizontal lines box, enter how often you want horizontal lines to be highlighted in the major grid. For example, if you enter 3 in the horizontal lines box, every third horizontal line will be highlighted in the major grid.
- In the Vertical lines box, enter how often you want vertical lines to be highlighted in the major grid. For example, if you enter 5 in the vertical lines box, every fifth vertical line will be highlighted in the major grid.
- If you want to change the color of the Grid Major lines, click in the color "dot" to select a new color.

5 In the Style area, select one of the following grid styles:
- Show grid as solid lines
- Show grid as dashed lines
- Show grid as dots

6 Click OK.

Behavior Settings

On the Settings dialog, the Behavior tab contains a set of options that allow you to determine how often stitches are generated as you create or edit designs.



Selection: Check this box if you want to have new paths automatically selected as you digitize them.
There are two options related to this setting:

Choose “Artwork only” if you want to exclude embroidery segments from being selected, or “All paths” to have paths of all types selected.

Digitize Setting: Check the “Automatically split new satin paths” option to enable it for all new satin paths that you digitize. When enabled, this setting will split satin column into smaller lengths randomly to prevent pulling.

You can also adjust “Auto Split” settings to satin paths retroactively, if desired, in the Properties panel. For more details, see “Drawing Design Shapes–Satin Properties–Auto Split Settings.”

Generate Stitches Settings: There are three options available to determine when stitches will be generated for embroidery paths.

- **Immediately:** Stitches will be generated as each new embroidery segment is drawn.
- **When idle for (n) sec:** The software will wait for a specified time before generating stitches. (set to 5 seconds by default). You can change the “idle” time
- **When you click the “generate” button:** If this option is selected, stitches will only generate after you click on the “generate” button. When enabled, this icon t the top of the Widget (see below).

Workspace View Tools

Changing the Magnification Level

Use the Zoom to increase or reduce the size of designs. When the Zoom mode is enabled you can either left-click to enlarge your design or right-click to make your design smaller.

To use the Zoom Tool:

1 On the toolbar, click the Zoom tool to go into zoom mode. To make the design appear larger (zoom-in) left-click in the workspace.
2 To make the design appear smaller (zoom-out), right-click in the workspace.
The magnification level will be adjusted accordingly.

Other zoom options

Aside from the Zoom tool, there are a number of other tools that you can use to quickly adjust the magnification of the current design. Click on any of the following tools to adjust the zoom level as required:

- **To Fit** Adjusts the zoom level the whole design fit in the design window.
- **Fit selection**: When selected, the magnification level will be changed to make the selection fill the window.
- **1:1** Zooms in (or out) to make the design its actual size.

- **1:3** Makes design appear exactly three times actual size.
- **1:6** Makes design appear exactly six times actual size.

Showing/Hiding the Grid

You can show the grids or, if they are in the way, you can hide them.

To show the workspace grid:

- On the toolbar, click the Grid tool.
  The grid will appear in the workspace. To hide the grid, click the Grid tool again.

Showing/Hiding 3D Stitches

The Embroidery Legacy Digitizing design workspace includes an option to view designs in 3D view. Use the 3D tool to preview a realistic 3D view of your design.

To show 3D stitches:

- On the toolbar, click the 3D tool.
  The stitches will appear in 3D view. To hide the 3D stitches, click the 3D tool again.

Using the Library

The Library is a very convenient way to search for and open files. It allows you to search for and open embroidery files from multiple directories simultaneously.

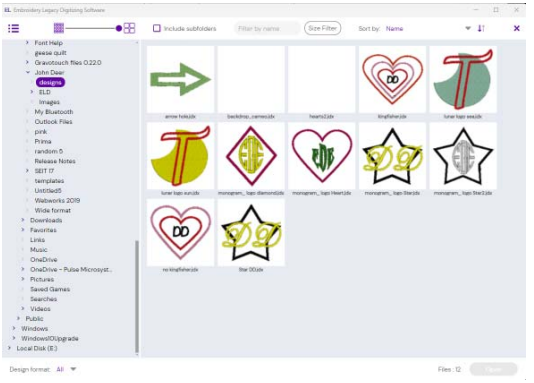
So, if you have designs stored on a number of different media – e.g. one or more USB sticks or your hard drive - you can look in all of these places at once with the Library feature. The Library displays a preview of the selected design including its name, dimensions, stitch count, and the number of colors that it uses.

To view designs using the Library:

1. On the main toolbar, click the Library tool.
   The Library dialog opens; currently it will display no design files.
2. Click on the names of the folders you want to browse for designs. Note that the folder (s) you have selected will be highlighted
3. By default, the search will find all the design files, of all file types, that are stored in the selected folder.
   However, to include all folders nested within the folder, check the **Include subfolders** box.

If "Include subfolders" is checked, this may add a significant amount of time to the search, depending on how many files are in the folder or folders you have selected.
If the search does seem to be taking too long, you can always press the Esc key to cancel it, and start a more limited search.

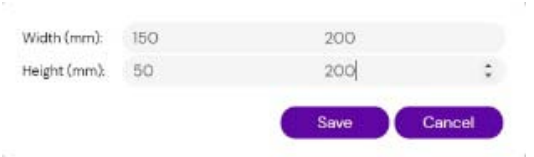
The preview pane shows a thumbnail image of each design present in the directory or directories you have selected.



4 (Optional) If desired, adjust the size of the thumbnail images by dragging the slider control.

5 Filtering the results; to limit the number of designs that appear in the results, you can apply different filters in Library:

- **Filter by name**: type some or all of the file name in the “Filter by name” field.
- **Size filter:** When you select this option, a new “pop-up” dialog will appear. In this dialog, Enter the range of width and/or height values that you want to have included in the search.



- **Filter by format:** By default, the Library will display all types of embroidery files that Embroidery Legacy Digitizing can read. However, by clicking in the “Design Format” field (bottom-left corner of the dialog), you can choose a single file type, and have only files of this type show in the main preview window.

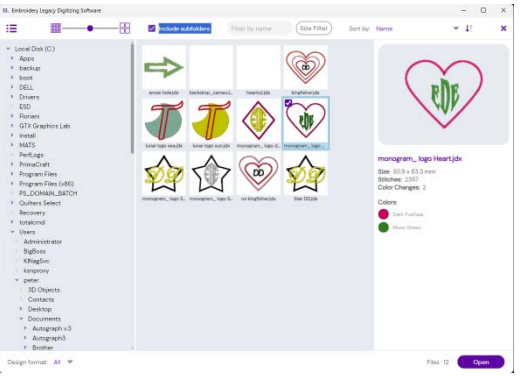
6 **Sorting designs**: You can change the order that designs appear in the grid. Do this by clicking in the “Sort by” field, and then selecting either Name, Format, Stitch Count Number of Color Changes, or Last Modified.

The order of the designs will change accordingly.

7 **Selecting files:** to select files do the following:

- To select a single design, click on the thumbnail image.
- To select a number of separate designs, tick the check boxes at the top-left corner of each thumbnail.

The selected file(s) are highlighted.



8 When you select a single design, a larger thumbnail image will appear in the design preview panel, which is located on the right side of the dialog. Under this image you will see the following information:

- The Design name.
- Size (width × height)
- Number of stitches
- Number of color changes
- List of thread colors.

9 To open the selected file or files in a new window, click the Open button.
The selected design or designs open in your workspace; if multiple designs were opened, each will open in its own tab.

Working with Backdrop images

You can open an image file to use as a backdrop while creating designs. Backdrop images can be used as a template, for tracing over with the Widget tools.

If you have loaded a backdrop image into a design, it will be saved along with the rest of the design information when you save the file.

Loading a Backdrop Image

When adding a backdrop image, you can select an image from the Backdrop library (installed along with Embroidery Legacy Digitizing) or use your own image.

If you are using your own images, the Backdrop tool can load images of the following types: *.BMP, *.JPG, *.GIF, *.PNG, and *.SVG.

To load an image as a backdrop:

1 On the toolbar, click the Backdrop tool.
You see the Load Backdrop dialog.

2 To insert an image file as the backdrop, take the following steps:
- In the Look in list, browse to the location of the image you want to load.
- In the Files of type list, select a file type for the image you want to open.
- Select the specific image you want to use.

3 Click Open.
The selected backdrop image will appear the workspace window.

Showing/Hiding the Backdrop Image

During the course of design editing, you may find it useful to temporarily hide a backdrop image.

Use the View Backdrop tool to show and hide the backdrop without actually removing it from the design. Click the Backdrop tool a second time to restore the image.

Adjusting the Backdrop Image Manually

You can select a backdrop image in the workspace using the Select Backdrop tool. When it has been selected, it will be enclosed in a selection frame with handles; you can use these handles to resize, stretch, or rotate the image.

To adjust a backdrop image manually:

1 Click the Select Backdrop tool.

2 Click the backdrop image.
You see the backdrop image enclosed in a selection frame.

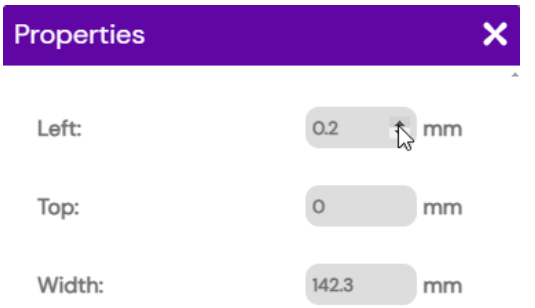
3 Do one or more of the following to adjust the backdrop.
- Click and drag the corner handles to resize the image proportionally.
- Click and drag the top or bottom (center) handles to change the vertical size.
- Click and drag the left or right (center) handles to change the horizontal size.
- Click and drag the rotation handle (located on the “branch” extending from the top of the selection frame) to rotate the image.

The backdrop image will be adjusted accordingly.

Adjusting the Backdrop in the Properties Panel

When you select the backdrop image, the properties panel will display the current properties of the image -- its position, size, angle, and opacity. Using the controls on the Properties panel, you can to make fine adjustments to any of these properties.

You can adjust these values in one of two ways: either by typing directly into the corresponding field, and then pressing “Enter” on the keyboard, or by “hovering over” the field and clicking the up/down arrows to increase/decrease the value.



To adjust properties of the Backdrop:

1 On the toolbar, choose the Select Backdrop tool

2 Click on the Backdrop image to select it.
You see the backdrop image enclosed in a selection frame.

3 Click the Properties icon on the toolbar.
The properties panel will display the properties of the backdrop.

4 Adjust any the following properties:
- **Left:** Sets the horizontal displacement of the backdrop relative to the center point (0, 0) of the grid
- **Top:** Sets the vertical displacement of the backdrop relative to the center point (0, 0) of the grid.

The “Left” and “Top” values both measure the displacement from the grid center to the top-left corner of the backdrop image

- **Scale**: This setting determines the size of the Backdrop image as a percentage of the original size.
- **Width:** Sets the horizontal size of the backdrop.

- **Height**: Sets the vertical size of the Backdrop.

The "Maintain Aspect Ratio" option will be selected (that is, enabled) by default. This setting ensures that the height and width will be scaled proportionally when you adjust either dimension in the properties panel. Note that this does not apply to changes to height or width made manually using the frame handles.
Uncheck "Maintain Aspect Ratio" if you want to change one dimension without changing the other.

- **Angle**: Enter the value (in degrees) to rotate the Backdrop by.
- **Opacity:** This setting determines how opaque the backdrop will appear; by default, the image will appear at 100% opacity, but you can drag on the slider to the left to make it more transparent (0% opacity = completely transparent).

5 Press Enter to apply the changes.
The backdrop image will be adjusted accordingly.

CHAPTER 2

Creating Design Shapes & Adjusting Settings

This chapter includes instructions for using the Embroidery Legacy Digitizing creative tools, including the Widget brushes and the text tool. After creating these embroidery segments, you can use the properties panel to adjust their properties, such as stitch density, stitch length, and many others (depending on the segment type selected).

Topics covered in this chapter:

- Using the brush tools for drawing and tracing lines.
- Customizing the Widget tools.
- How you can adjust the properties of the various embroidery segment — for run, steil satin, complex fill, and appliqué segments.

Using the Brush Tools

You can use the Widget tools to input linear embroidery segments into a design directly, either via touch-screen or using the mouse to click and drag. The are a number of different widget brushes, each of which creates its own embroidery effect.

Note that all of the brush tools described below can also be accessed via the Toolbox interface. For the purposes of the procedures below, we will assume that the "Widget" interface is being used.

The Widget Interface

When you click/tap the Widget icon, the Widget palette appears in the lower-left corner of the design workspace. When you click the brush icon on the palette, you will see a list of all the brush types available.

Select the brush type of segment needed, and click/drag or draw the segment.

Broadly-speaking, the Widget tools fall into four categories:

- **Steil-type tools**: These brushes sketch a line that consists of zig-zag stitches that are placed perpendicular to the outline that you draw with your mouse or stylus. This Appliqué
- **"Calligraphy" brushes**: These brush tools generate a segment that is much like a steil, except that (unlike a steil stitch), the width does not have to be constant. For example, in the tapered ends or pressure sensitive brushed, the column width can vary along the length of the segment. This set of tools includes the Tapered ends, Calligraphy 145, and Pressure sensitive brushes.
- **Run Brushes**: These create a linear run stitch that follows the contour that you draw; this style includes the Run and Run Bean brushes.
- **Fill Brush**: This tool creates an embroidery segment consisting of a complex fill of parallel rows of stitches. Once created, you can choose the properties such as the fill type, the density of the fill. You can also adjust the direction that the lines of the fill with the Inclination edit tool.

Each of the above types has slightly different properties, and so the precise order of steps that you need to follow will be slightly different, depending on the type of brush that is chosen. The procedures for drawing with each type are outlined below.

Drawing with the Run Brushes

The "Run-type" tools (Run and Bean Run) can be used to create either linear, open segments or closed shapes. You can draw either simple run segments or bean segments. In the Widget palette, you can also select the stitch length of the run you are creating.

To draw with the brush tools:

1 Click the Widget tool.

The Widget interface opens in the lower-left corner of the workspace.

2 Click the brush icon.

On the outer Widget circle, you see the list of Brush styles.

3 From the list of brushes, click either the Run or Bean brush tool.

4 In the palette inner circle, click the Stitch length icon.

The outer circle of the palette now displays the stitch length options.

5 Click the icons to select the desired stitch length.

The default stitch length will be adjusted correspondingly.

6 On the palette "inner circle", select the Shape icon.

The outer circle displays the various shape icons (Free Draw, Circle, Square, etc.)

7 Select the shape tool you want to use.

8 Draw in the workspace with the mouse or a stylus to create the shape.

The stitches are generated automatically.

Drawing with the Steil and Applique Brushes

The Widget includes Steil and Applique drawing tools. When you draw with these brushes you can choose the width of the line and the stitch density for each segment you draw.

To draw with the “steil-type” brushes:

1 Click the Widget tool.
The Widget interface opens in the lower-left corner of the workspace.

2 Click on the Brush icon
On the outer palette circle, you see the list of Brush styles.

3 Select the icon corresponding to the brush style you want to use.

4 Click the width icon to choose a brush width.
The outer palette circle shows the available brush widths.

5 On the “outer circle” click one of the width icons to select a width.
The width of the brush will be changed correspondingly; notice that the dot in the center of the mouse pointer also changes to match.

6 To change the segment density, click the density icon.
Icons showing the available density values appear on the palette’s “outer circle”.

7 Select the density you want by clicking the corresponding icon.
The selected density is now "loaded" on to the brush tool.

8 On the palette "inner circle", select the Shape icon.
The outer circle displays the various shape icons (Free Draw, Circle, Square, etc.)

9 Draw in the workspace with the mouse or a stylus to create the shape you want to draw.
The stitches will be generated automatically as you draw.

For appliqué segments, you have the option of breaking them up into their component parts – that is, into separate placement, tack-down, and border segments.
To break up the appliqué segment, select it, right click, and choose "Breakup Applique" from the context menu.

Drawing with the Calligraphy-type Brushes

These brushes include the Tapered End , and Calligraphy 145 brush. These types of brushes create linear, open segments. In the case of the Pressure sensitive brush, the segment width can vary along the length of the outline, depending on how much pressure is exerted on the screen.

To draw with the "calligraphy-type" brushes:

1 Click the Widget tool.
The Widget interface opens in the lower-left corner of the workspace.

2 Click on the Brush icon
On the outer palette circle, you see the list of Brush styles.

3 Select the brush style you want to use - Tapered Ends, Calligraphy 145, or Pressure Sensitive.

4 Click the width icon to choose a brush width.
The outer palette circle shows the available brush widths.

5 On the “outer” circle, select a width.
The width of the brush will be adjusted accordingly.

6 To select the segment density, click the density icon.
Icons showing the available density values appear on the palette’s “outer circle”.

7 Select the density you want by clicking the corresponding icon.
The selected density is now “loaded” on to the brush tool.

8 Sketch the lines in the workspace with the mouse or a stylus.
The stitches will be generated automatically as you draw.

Drawing with the Fill Brush tool

The Fill Brush tool create complex fill shapes. When you create a fill segment, you can use the Widget controls to set the fill density before you draw the segment. You can also chose a pre-determined shape to apply (see the following section for details) or draw a free-form shape.

To draw with the fill brush:

1 Click the Widget tool.
The Widget interface opens in the lower-left corner of the workspace.

2 Click the Brush icon.
On the outer Widget circle, you see the list of Brush styles.

3 From the list of brush icons, select Fill.

4 To set the fill density, click the density icon.
Icons displaying the density values appear on the palette’s “outer circle”.

5 Select the density you want by clicking the corresponding icon.
The selected density is now "loaded" on to the fill tool.

6 On the inner circle select the Shape icon.
The outer circle displays the various shape icons (Free Draw, Circle, Square, etc.)

7 Click on the shape tool you want to employ, and draw your shape.
The fill stitches will be generated automatically.

8 Save the design.

9 Release the bead.
You will now see that the fill lines will be re-generated to follow new angle of the inclination line.

10 Save the design.

Satin Brush Tools

You can use Satin Brush tools to draw satin paths in designs. There are two different Satin brushes, the Satin and Classical satin brushes. They both generate the same kind of embroidery, but they differ in their input mode - see the procedures that follow for details.

To create a satin path with the Classic Satin brush:

1 Click the Widget tool.
The Widget interface opens in the lower-left corner of the workspace.

2 Click on the Brush icon
On the outer palette circle, you see the list of Brush styles.

3 Select the Classical Satin brush tool.

4 In the workspace, click to place points by clicking side-to-side to create the shape.

5 When you have finished creating the desired shape, press Enter.

The satin stitches will be generated; direction lines in the column, and the start/stop beads, will be placed automatically.

You can adjust the angle lines of a satin path segment at any time using the "Inclination Edit tool. See "Adjusting Inclination Lines" for details.

To create a satin path with the Satin brush:

1 Click the Widget tool.

The Widget interface opens in the lower-left corner of the workspace.

2 Click on the Brush icon

On the outer palette circle, you see the list of Brush styles.

3 Select the Satin brush tool.

4 Click to place points outlining the desired shape.

5 When you have finished tracing the shape, press Enter.

The mouse pointer will change to a cross with a black bead beside it when you hover over the outline of the segment; this indicates that it is now in "angle line" mode.

6 Click and drag from one side of the column to the other to place the angle lines. You can do this multiple times to vary the direction of the stitches along the length of the satin column.

7 Press **Enter**.

The tools will now exit "angle line" mode.

8 Adjust the positions of the Start (green) and Stop (red) beads, if desired, by clicking and dragging them.

9 Press Enter.

The stitches will now be generated.

You can adjust the angle lines of a satin path segment at any time using the "Inclination Edit tool. See "Adjusting Inclination Lines" for details.

Adjusting Inclination Lines

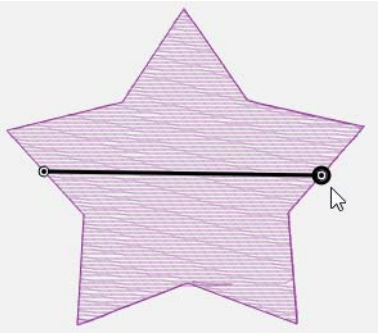
Fill and satin segments distinct in that they contain an Inclination line, which determines how the embroidery will be oriented relative to the design workspace. By default, this line will be horizontal, parallel to the to the grid lines in the workspace. However, by using the Inclination Edit tool, you can move this line to any angle that you want.

To adjust the angle of an inclination line:

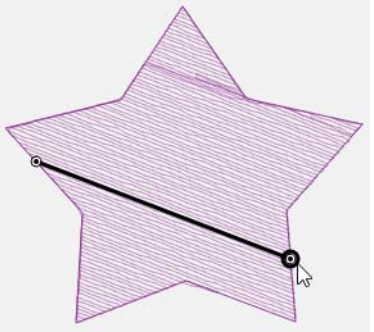
1 On the toolbars, select the Inclination Edit tool.

2 Click on a Fill segment.
The inclination line will appear as a black line across the fill segment, with black beads at either end.

3 Click one end of the inclination line to select it.
When selected, the bead will be highlighted with a black circle



4 Drag the selected bead to move the inclination line to make the desired angle.



Drawing Shapes

You can use the various shape option on the Widget tool to draw embroidery in specific shapes, such as squares, arrows, and hearts.

The default setting for the shape is a simple "free" line drawing tool - on this setting, the palette will show the "Free draw" icon. However, there are a number of different shapes that you can select – for example, a square, circle, or star. To draw straight lines, select the straight line tool; this creates a simple line like the "free draw" tool, except that it is constrained to be straight.

When you select the shape and embroidery type, you simply click and drag to set the size and orientation of the shape.

To draw shape with the Widget:

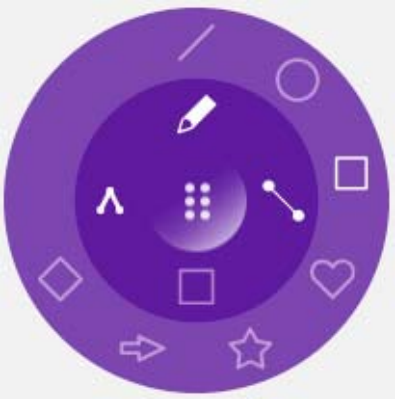
1 Open the Widget tool, if it is not already open.
The Widget appears in the lower-left corner of the workspace.

2 Click the Brush icon.
The outer circle of the Widget will display the list of brushes.

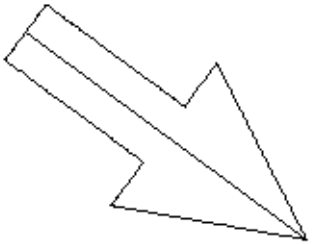
3 Select the brush type you want to apply.

Note that not all of the brush types allow you to use the shape option; specifically, this option is not available for the Tapered ends, Pressure Sensitive, or Calligraphy 145 brushes.

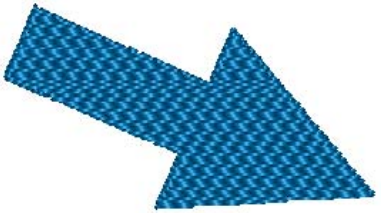
4 On the "inner" palette circle, click the shape icon.
The outer palette circle now displays the available drawing shapes; circle, square, heart, etc.



5 Click the shape you want to use.
6 In the design workspace, click, hold, and drag to create the shape you want.
As you drag, note that the shape appears in outline, showing its size and orientation.



7 Release the mouse button to place the shape.
The stitches will automatically be generated.



Inserting Paths into an Existing Sequence

The **Digitize Before**/**Digitize After** options are methods that allow you to insert new segments anywhere you want in an existing design. After selecting a segment, this tool allows you to choose whether the new segment to be inserted before or after the current segment. If you want, it allows you to insert several segments consecutively.

To insert a segment into the design:

1 Select an existing segment in the workspace and right-click on the selected segment.
You see the context menu.
2 From the menu, select one of the following:
- Digitize Before to insert a new segment before the selected one.
- Digitize After to insert new segment before the selected one.

3 Select one of the tools from the Widget or Brush menu (e.g. Run) and click points to draw the required path.
4 Press **Enter** to complete the path.
The new segment will inserted into the design sequence.
5 Repeat steps 3-4 more segments are required; the paths will continue to be inserted in sequence (before or after) as specified in step 2.
6 To exit the Insert mode, select a different (non-digitizing) tool such as the Select tool.

Applying Snap to Anchors

If you are drawing design using one of the linear shape tools (that is, Free Draw or Line), you can apply the Snap to Anchors option to join the ends of adjacent segments. This has the effect of creating a single, continuous segment in place a series of separate segments, thus reducing the number of stops and jumps.

To draw a continuous line segment:

1 On the toolbar, click the Snap to Anchors tool to enable it.

2 On the Widget, click the Brush icon.
The outer circle of the Widget will display the list of brushes.

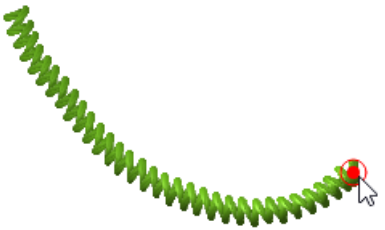
3 Select the brush type you want to apply.

4 On the "inner" palette circle, click the shape icon.

5 On the "outer" circle, select either the Free Draw tool or the Line tool.

6 Click in the workspace to draw the line, as normal.
The linear segment will be generated.

7 With the drawing tool still active, hover over the end of the existing segment.
You see a small red dot with a circle around it; this indicates that your tool is on top of the anchor of that segment.



8 Click and drag to create a new line
The two lines will be "snapped" together to form a continuous line.

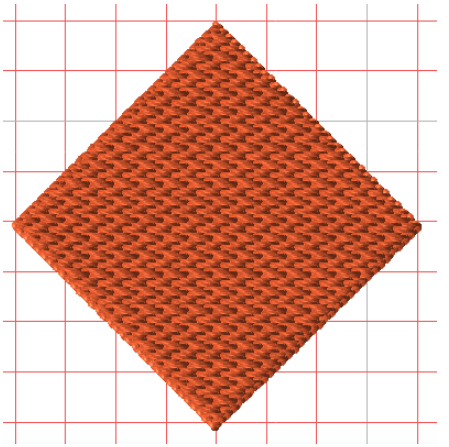
9 Repeat steps 7-8, as required, to draw the whole shape you need. When done, save the design.

Add Hole Tool

Using the Add Hole tool, you can trace out a hole in a fill segment. When you create a hole, all the fill stitches within the designated area will be removed. Note that this tool can only be applied to fill segments.

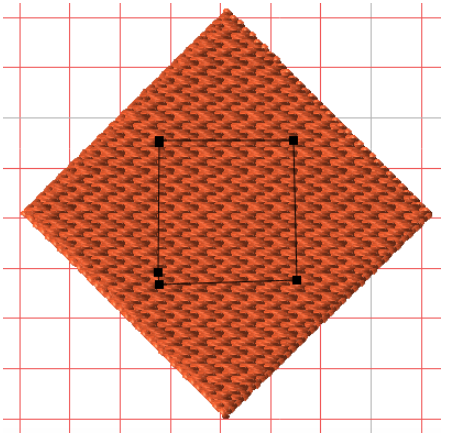
To create a hole in a fill segment:

1 Select a Fill segment.
The selected segment will be enclosed in a selection frame.

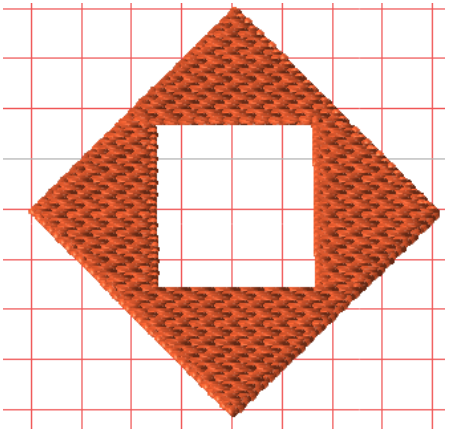


2 On the toolbar, select the Add hole tool
The mouse pointer changes to a + symbol.

3 Click inside the fill segment to place the points that determine the hole's shape.



4 When all the points have been placed, right-click anywhere in workspace to complete the outline.
When you right-click, the outline will automatically be closed.
The hole will appear in the fill.



You can also you create a whole using the "shape" tools on the Widget; select the Add hole tool, then select the shape (circle, rectangle, star, etc) and draw the shape over your fill. You can adjust the size of the hole by how far you drag the mouse.

5 If desired, you can create additional holes in the segment by repeating steps 2-4.

You can change the shape of the hole by selecting the individual anchor points and changing their properties; for example, you can change a hole with right-angled corner to a hole with rounded corners.

Use the Path edit tool to select the anchor points that you want to edit. See "Design Editing--Changing the Properties of an Anchor Point" for details.

6 Save the design.
Smart Join mode will now be enabled.

Widget Preferences

You can configure the Widget palette to your own specifications using the Widget Preferences. You can add width, stitch density, or stitch length values or remove values that are not useful for you. When you add a value, the palette's outer circle will display a new icon corresponding to the new value.

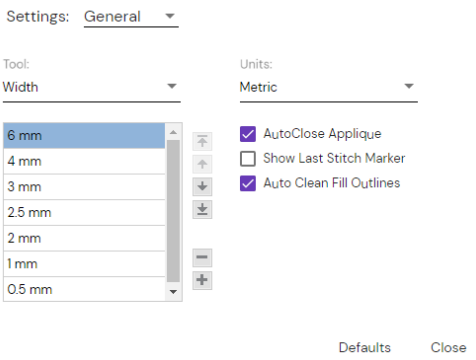
The settings dialog can also be used to add or remove brushes from the palette's set of options; in this case however, you are not able to create new brush types, only replace ones that you previously removed.

To add a new value to the Widget palette:

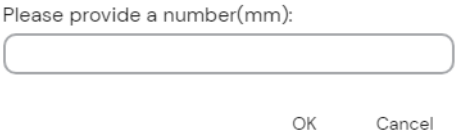
1 Click the "dots" icon and select Settings from the list that appears.
You see the Settings dialog.

2 Click in the Tool field to select the setting type you want to modify, either Width, Density or Stitch length.
In the dialog, you see the values that are currently configured for the tool; if you have

not *previously configured the palette, these will be the default values.*



3 Click the small + sign to the right of the list.
You see the Add value dialog.



4 Enter the value you want to add, and then click OK.
The value now appears on the list.

5 To change the placement of the new value relative to the existing ones, select it and click the arrows to the left of the list to move it up or down in the list of values.

6 Click OK to close the Widget settings dialog.
The new value will be included in the palette's "outer circle."

To remove a value from one the Widget Properties:

1 Open the settings dialog.
You see the Widget settings dialog.

2 Click in the "Tool" field, and select one of the setting categories: Width, Density or Stitch length.
The dialog will display the values that are currently available for use.

3 Select the value you want to remove.
The value will be highlighted.

4 Click the small - sign next to the list.
The value will be removed from the list, and will not appear in the Widget palette.

AutoClose Appliqué

The Widget Preferences page also includes the **AutoClose Appliqué** option. This option, when enabled, ensures that any line you draw with the Appliqué brush will be closed when you complete the segment. Since appliqués are, in most circumstances, meant to be closed, this setting is set to "on" by default.

If you need to draw an appliqué with open ends, uncheck this setting, and click OK to close the Preferences dialog.

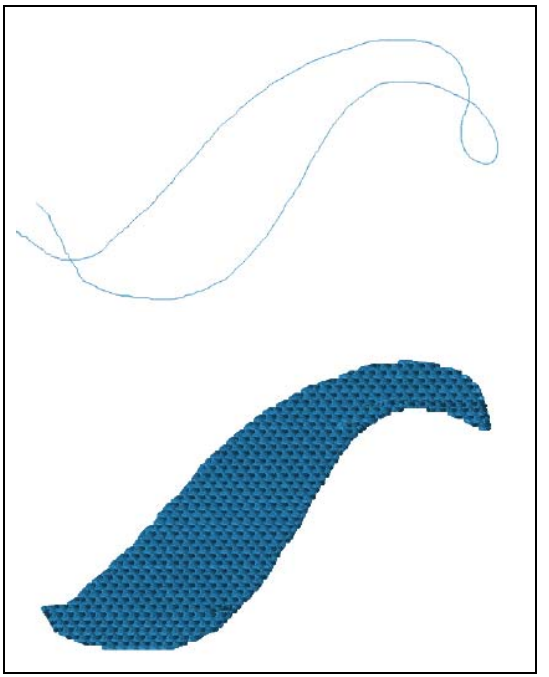
Show Last Stitch Marker

The "last stitch marker" enables you to easily find the end in any design; this marker appears as a black circle superimposed on the last stitch of the final segment of the design. As you add more stitch segments (or change the segment sequence) the position of the marker will be updated accordingly.

The "Show Last Stitch Marker" setting will be turned on by default. If you want to disable it, open the Widget settings dialog, and uncheck the "Show Last Stitch Marker" box.

Auto Clean Fill Outlines

The “Auto Clean Fill Outlines” setting helps to improve the overall quality of shapes created with the Fill Widget tool. This setting works by trimming off any extraneous small loops and “fish tails” that may inadvertently be created when tracing out the path of a fill segment. This setting will be enabled by default; you can disable it by “unchecking” the check box



At the top, an example of an drawn shape with some extraneous path included; below, the same shape rendered into a fill segment with the “Auto Clean” setting enabled.

This setting applies to Fill segments only, and not to any other kind of segment.

Embroidery Conversion

The tools on the Stitch Effects toolbar (located along the bottom of the workspace), may be used to convert any segment to another stitch type in Embroidery Legacy Digitizing. For instance, if you have drawn a linear figure segment with one of the artwork tools, you can do so easily by selecting it and clicking either the Run tool or Motif run tool.

Note that the process for converting segments varies depending on the type of embroidery yu are converting to. The following sections for details on each procedure.

Converting to Run Stitches

You can convert art segments into Run stitches. A Run stitch is a basic straight stitch that is placed along a line at a set interval. When you create Run stitches, each point that you punch will be a stitch penetration.

Depending on the properties you apply, the Run stitch segment can be made into a single run, double run, or bean stitch. When you select the Bean stitch option, the properties panel will expand to include a “Bean Repeats” setting.

For more details on these, and other settings that apply to Run segments, refer to the “Run Properties” section.

To create Run stitches:

1 Select one (or more) outline segments.

2 On the Stitch Effects toolbar, select the Run tool.

You see the segment(s) altered accordingly.

To alter run segment properties, click the appropriate tab in the Properties box and make the setting changes.

Converting Run Motif stitches

Run (Motif) stitches are decorative stitches, which can be used to make decorative embellishments or to add to the theme of any particular project.

To create Run (Motif) stitches:

1 Select one or more segments you want to convert.
2 From the Stitch Effects toolbar, select the Run (Motif) tool.

You can also convert an ordinary run segment to a Motif segment by selecting it and pressing **M** on the keyboard.

3 In the Properties box, click the Run tab.
You see the Run properties panel.
4 In the Stitch length (mm) box, enter the stitch length.
5 From the Motif list, select a motif pattern.
6 In the Run spacing (mm) box, enter the amount of spacing you want between the motifs.\
You see the segment(s) altered accordingly.

Steil Conversion Tools

Creating Steil stitches

You can use the Steil Tools to convert a select outline to Steil segment. Steil segments are linear satin embroidery paths commonly used for borders and other detail.

There are three varieties of "convert to steil" tools available:

- Apply the **Steil** tool to create a narrow satin path with a constant width.
- Use **Jagged Steil** tool creates a segment with width that varies randomly along the length of the segment.
- The **Steil Run** tool creates a satin path with a constant width, but including a run stitch that follows the segment's outline.

To create Steil stitches:

1 Using one of the drawing tools, create an outline shape, and select it.
2 From the Stitch Effects toolbar, select one of the following tool icons: Steil, Jagged Steil or Steil with Run
The stitches are now generated.
3 Adjust the settings of the segment (such as density, path width, etc.) in the Properties panel.
4 Save the design.

Creating Satin Segments

You can use the Satin tool or Auto Satin tool to convert an outline (i.e. artwork) shape to a Satin column. There are for different types of "Convert to Satin" tools.

- **Satin** : When the "regular" satin conversion tool is used, you can add the inclination lines manually after converting. You can also set the positions of entry and exit points, if needed.
- **Jagged Satin** : Creates a satin column stitch much like the regular Satin tool, but with a "jagged" edge.

> For details on adjusting the "jaggedness" of these segments, see "Adjusting jagged paths," later in this chapter.

- **Gradient Satin** : This tool creates a variable-density satin column. The density will vary according to the "Gradient Profile" property
- **Color Blend Satin** : Creates a two color satin path in which the colors blend into each other. As with Gradient satin segments, you can vary the density along the length of the segment.

> See the "Gradient & Color Blend Properties" procedure for details on adjusting Gradient Satin and Color Blend Satin segments

- **Auto Satin** : You do not need to place Inclination lines and entry exit points when converting using this tool, since they are placed automatically.

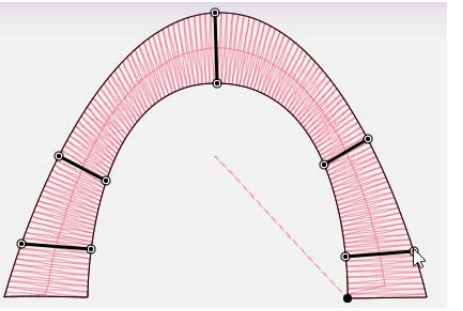
> Inclination lines can still be adjusted, if desired, by using the Inclination Edit tool on the "Path Edit" drop-down menu.

To create satin stitches using the Satin tool:

1 Using the brush or you want to convert.
2 From the Stitch Effects toolbar, select the Satin tool.

When you hover the mouse over the outline, it appears as a cross with a black dot next to it, to indicate that the tool is now in "inclination line" mode.

3 Click and drag from one side of the outline to the other to place inclinations lines to.



4 Press Enter.
The tool changes into "Enter/Exit points" mode, indicated by the black dot that appears next to the cursor when you "hover over" these beads.
5 Click and drag the Entry point (green bead) and/or Exit point (red bead) to change their positions on the segment.

6 When done editing Entry/Exit points, press **Enter** again.
The stitches in the segment will now be generated.

Converting to Fill

You can use the various Fill tool to convert any outline segment to a fill. There a three types of fill that you can create with these tools:

- **Fill** : Generates a normal complex fill segment. After the fill is generated, you can change the pattern by selecting a new one from a list in properties panel.
- **Fancy Fill** : Creates segments that have satin patterns that have a grooved texture.
- **Motif Fill** ; Creates a fill segment based on motif patterns, which consist of repeated lines of decorative run stitches,
- **Gradient Fill** : Select to create fill stitches with varied stitch lengths throughout the same segment.
- **Color Blend Fill** : Select to create fill stitches that combine two thread colors in the same segment.
- **Wave Fill** . Select this tool to create Fill stitches that have a Wave fill pattern.
- **Wave Gradient** . Select to create Fill that have a wavy pattern of run stitches. The spacing between the lines will vary across the width of the segment.
- **Wave Color Blend** . Select to create Fill stitches consisting of a wavy pattern of lines with blended colors. These patterns combine two thread colors in the same segment.

For details on how to adjust the properties of fill segments generated with the Gradient fill and Color blend fill tools, refer to the "Gradient & Color Blend Properties" procedure later in this chapter.

When you convert the selected segment using any one of these fill tools, you also place an inclination line, which determines the orientation of the embroidery that makes up the fill.

To create fill segmentsusing the convert tools:

1 Select one or more segments you want to convert.
2 From the Stitch Effects toolbar, select the Fill tool you want to apply.
3 Press **Enter**.
When you hover the mouse over the outline, the pointer will display a cross with a dot next to it, indicating that the fill tool is now in Angle line mode
4 Place the angle line by clicking and dragging from one side of the shape to the other.
5 Press **Enter**.
The tool will now be in "Enter/Exit points" mode, indicated by the black dot when you "hover over" these points.

6 Click and drag the Entry point (green bead) and/or Exit point (red bead) to change their positions on the segment. When done, press **Enter** again.
The fill stitches will now be generated.

7 Adjust settings in the segment Properties, if required, and save the design.

Converting a segment to an Appliqué path

Use the Applique tool to create an applique border around your design segments. This segment will consist of three different parts, a placement running stitch, a tack-down running stitch, and final border top stitch.

The three parts of the Applique segment will be joined together as one segment. However, if you need to adjust the settings of one part of the segment, independently of the others, you can break up the segment by right-clicking it and selecting “Breakup Applique” from the context menu.

To create stitches using the Applique tool:

1 Select one or more segments you want to convert.

2 On the Stitch Effects toolbar, select the Applique tool.
The segment will be converted to an Applique segment.

3 In the Properties dialog, make any necessary changes the properties “Changing Segment Settings—Appliqué Properties.”

Adjusting Embroidery Properties

You can use the “Properties” panel to adjust the attributes of the embroidery segments you have created with the Widget tools - properties such as stitch length, stitch density, spacing etc. Depending on what kind of segment is selected (e.g. Run, Steil, Fill, Appliqué, or Text), the properties you see will be different. The following sections describe the properties that can be adjusted grouped by the type of segment.

To view and adjust segment properties

1 To open the properties panel, click the Properties icon on the toolbar.

2 Select the segment that you want to adjust.
The panel will now show the properties of the selected segment.

Be sure to select only one type of embroidery segment when you want to adjust its properties; if you inadvertently select two different types, the properties panel will only display the properties that pertain to one segment type.

Calligraphy-style segment properties

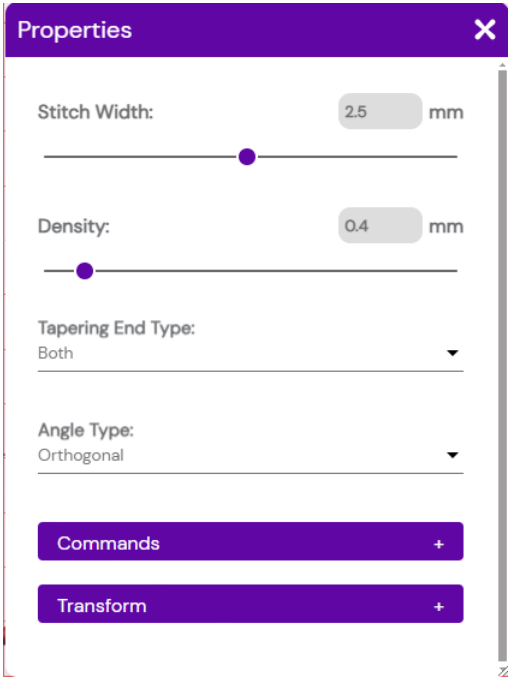
There are special segment properties that apply to segments that are created with the “Brush” tools, that is, the Calligraphy 145, Tapered Ends and Pressure Sensitive tools. There will be a set of default settings (for density, stitch angle, etc.) which will be applied when you initially use each of these tools, but you can modify all of these using the corresponding fields in the Properties Panel.

To adjust properties of "Calligraphy"-type segments.

1 Select a Calligraphy, Tapered ends, or Pressure sensitive segment.

2 Click the Properties icon.

The Properties panel will display the applicable set of properties.



3 In the Properties Panel, adjust any of the following settings.

- **Brush width**: Default width of the column stitch.
- **Density**: Sets the density of the stitches, in mm.
- **Tapered end type:** Determines at which ends of the segment, the column width will taper to a point; select None, Start, End, or Both.
- **Angle type:** Select either "Fixed" or "Orthogonal."
  - **Orthogonal:** The direction of the zig-zag stitches will remain at right angles to the direction line of the drawn outline.
  - **Fixed:** The orientation of the stitches will be constant, independent of the direction of the drawn outline.
- **Brush angle:** This setting only becomes active if the Angle type is set to "Fixed". This parameter determines the angle of the zig-zag stitching, relative to the workspace grid.

In the design, the selected segment will be updated automatically as you adjust its properties.

4 Save the design.

Run Properties

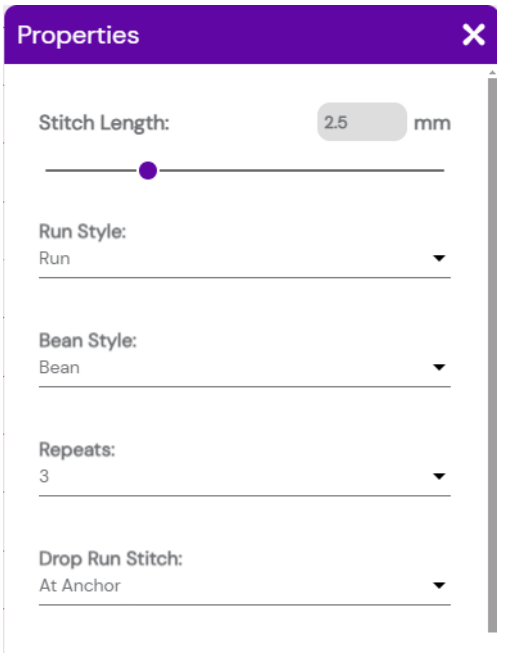
When a run segment is selected, the properties panel will display the properties that are specific to Run stitches.

To adjust the properties of Run segments:

1 Select a Run stitch segment.

2 Click the Properties icon.

The Properties panel will display the Run segment properties.



3 Adjust one or more of the following:

- **Stitch Length:** To change the default stitch length for the running stitch, enter a new value (in mm) in this field.
- **Run Style:** Choose either Run (the default) or Double Run.
- **Bean Style:** Select None (generates a “normal” single running stitch) or Bean to apply a repeating run stitch
- **Bean Repeats:** If the Bean Style is set to “Bean” above, the Bean Repeats setting becomes active. Use this setting to determine how many times the bean stitch will be repeated.
- **Drop Run Stitch**: Use the “Drop Run Stitch” property to determine how individual stitch penetrations will be placed as the run goes around sharp corners.

  Select one of the following options:
  - **None**: No adjustment to stitch length is made at sharp corners.
  - **At Anchor**: A stitch penetration is placed at the anchor point at the top portion of a curve, and the remaining stitches are placed accordingly on either side of that point.
  - **Chord Gap:** The stitches are shortened at the top portion of a sharp corner, so that the run goes more smoothly around the curve.

  In the design, note that the properties of the selected segment will be updated automatically as you adjust them.

4 Save the design.

Motif Properties

The Motif run stitch is a special kind of run stitch that is made of a repeated pattern of programmed stitches. For the most part, the properties of this kind of segment are like those of regular run of bean stitches, but it has a number of special properties that are distinct to it, which are outlined below.

To adjust Motif Run properties:

1 Select a Motif Run segment.

2 Click the Properties icon.

On the Properties panel, you see the Run motif settings.

3 Adjust the following settings:

- **Stitch Length:** To change the default stitch length for the, enter a new value (in mm) in this field.
- **Drop Run Stitch**: The “Drop Run Stitch” property determines how

individual stitch penetrations will be placed as the run goes around sharp corners.

Select one of the following options:

- **None**: No adjustment to stitch length is made at sharp corners.
- **At Anchor**: A stitch penetration is placed at the anchor point at the top portion of a curve, and the remaining stitches are placed accordingly on either side of that point.
- **Chord Gap:** The stitches are shortened at the top portion of a sharp corner, so that the run goes more smoothly around the curve.

4 In the Motif Pattern drop-down list, choose the motif you want to use.

5 In the Pattern Size field, adjust the size of the programmed pattern units by dragging the slider, or by entering a value into the Pattern Size field.

6 Save the design.

Steil Properties

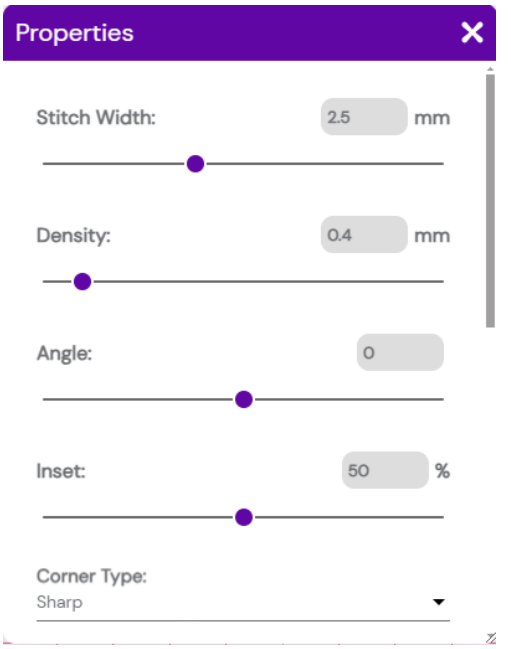
When a Steil segment is selected, you can use the Properties Panel to adjust properties such as the segment with, stitch angle, corner type, and others.

To adjust Steil properties:

1 Select the Steil segment.

2 Click the Properties icon.

The Properties panel will display the Steil properties.



3 Adjust the following settings:

- **Stitch Width:** This property controls the overall width (side to side) of the steil segment.

Note that the absolute length of stitches in the segment will be independent of this value, because it will also depend on the Angle parameter.

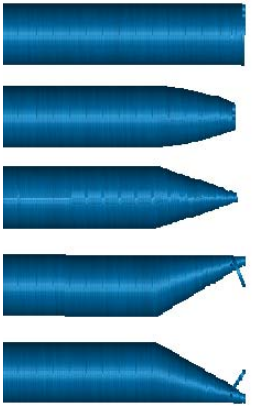
- **Density:** Sets the stitch density (in mm) of the segment.
- **Angle:** Determines the angle of the stitches in the segment; the available range is between -60º and 60º.
- **Inset percentage:** This quantity determines how the Steil stitches will be placed relative to the segment outline. By default, this will be set to 50%, meaning that the stitches will be

evenly distributed on either side of the outline.

- **Corner type:** Determines the shape of corners in the Steil path. In the Corner field, select one of the following:
  - Sharp.
  - Bevel.
  - Round.
- **Corner Style**: This setting determines how the stitches will be sewn out as they go around a corner. Choose one of the following options:
  - **Autoturn:** As the stitches approach the corner, they turn such that they sew at right angles to the outline on the other side of the corner.
  - **Mitered**: Stitches stay at the same angle as they approach the corner, but are shortened to a point (like the corners on a picture frame). This setting is best for sharp corners (60º or less).
  - **Lapped:** Stitches will maintain their respective angles as they approach the corner, but will overlap completely. This corner will be applied when the angle of the turn is under 60º; for larger angles, the Autoturn style will still be applied.

For mitered corners, a small amount of overlap is applied to prevent gaps from appearing inside of the corner. By default, this value will be set to 1.0 mm, but it can be adjusted in the Mitered Distance field.

- **Start Cap** and **Stop Cap**: These two fields determine the shape of the steil segment ends. Select the desired end type from the drop-down list in the corresponding field.
  - Standard
  - Rounded
  - Sharp Point
  - 45 Cut Point
  - 135 Cut Point



The different steil ends options. From top to bottom, Standard, Rounded, Sharp Point, 45 Cut Point, and 135 Cut Point.

4 **Split Long Stitches**: This is an option that can be useful to apply for steil segments that are relatively wide. When selected, extra stitch penetrations with be generated part-way across the width of a steil border; this prevents the generation of overly-long individual stitches.

5 Save the design.

Appliqué Properties

For Appliqué segments, you can set the following parameter for the selected segment: Note that which properties are applicable depends on the type of Appliqué border stitch that you select - Satin, Blanket or Motif (Run).

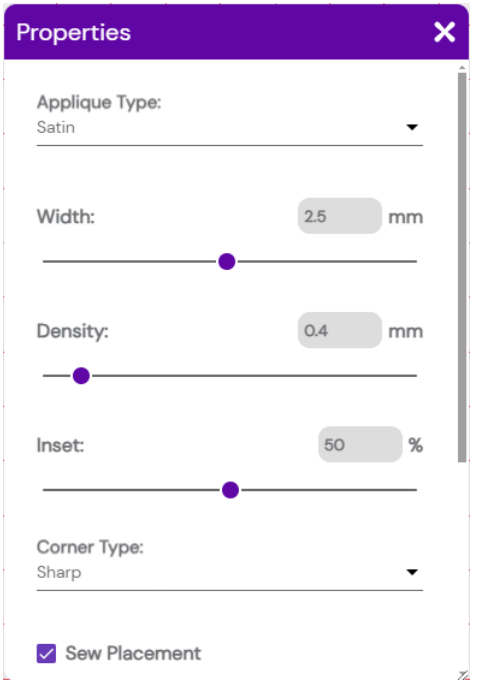
The properties of the Applique are here treated as a unit; however, there is the option to break up the appliqué segment and change the properties of the components as discrete parts.
To break up the appliqué segment, select it, right click, and choose "Breakup Applique" from the context menu.

To adjust appliqué properties:

1 Select the Appliqué segment.

2 Click the Properties icon.

You see the applique properties.



3 In the **Appliqué Type** field, select one of the following to set the border type:
- Satin
- Blanket
- Motif

4 If Satin appliqué is selected, adjust the following settings:
- In the Width field, enter the desired width of the satin border.
- In the Density field, enter the stitch density of the border.
- In the Inset (%) field, enter the desired inset percentage.

A 50% offset (the default value) means that the satin exactly straddles the outline; a 0% offset means that it is just outside the outline; and a 100% offset means that i is entirely inside the outline.

5 If the Blanket Appliqué border is selected, adjust the following segment settings:
- In the **Width** field, enter the desired width of the Blanket stitch border.
- In the **Density** field, enter the desired spacing between the blanket stitches.

6 If a Motif border has been selected, adjust the following properties:
- In the **Motif Stitch Length** box, set the length of the positioning and tack down run stitches.
- In the **Motif Pattern** field, click the down-arrow to select a pattern from the drop-down list motifs.
- In the **Motif Size** field, adjust the size of the repeated unit in the motif pattern.
- In the **Inset** field, set the percentage that the motif stitch border will be inset relative to the outline of the original Appliqué segment. This setting determines by how much the motif stitches overlap the Appliqué fabric.

7 From the **Corner Type** drop-down list select one of the following:
- Sharp.
- Bevel.
- Round.

8 **Sew Settings** (**Pl**acement/Tack Down/ Border/Zig Zag underlay). Each of these check boxes controls whether or not the corresponding portion of the applique segment will be generated.
By default, the Placement, Tack Down, and Border settings will already be selected, meaning that these three components will be generated whenever you draw an applique is drawn. However, if you do not want one (or more) of them be sewn out, uncheck the corresponding box to omit it

The Zig Zag Underlay is an option, and so it will not be checked by default. Check this box if you want to add an underlay to the applique segment.

The applique segment will be adjust accordingly.

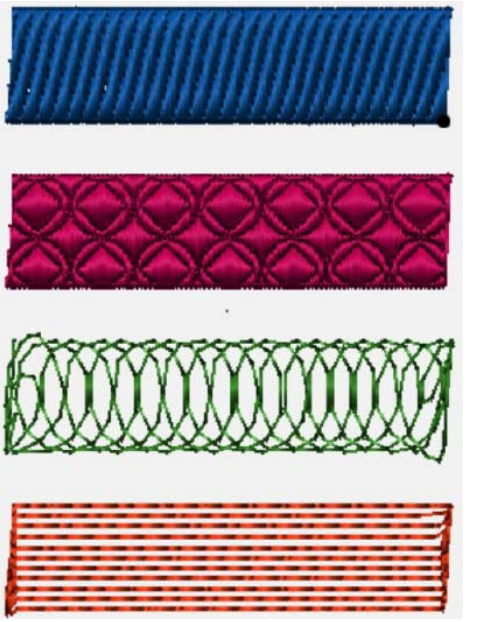
9 Save the design.

Satin Properties

In the properties panel you see a series of settings that apply exclusively to the Satin segment type. For example, you can change the stitch length, the density, and choose a different pattern type.

To adjust Satin column properties:

1 Using the Select tool, select the segment.
2 By default, satin segments will have a standard satin fill when first generated.
To choose a different fill type, click in the Satin Pattern Type list, and choose one of the following:
- Standard
- Fancy
- Swirl
- Contour



Four examples of different Sating Pattern Types. From top to bottom, Standard, Fancy, Swirl, and Contour.

3 Adjust the stitch density by clicking and dragging the Density control.
4 Adjust the stitch length by dragging the Stitch Length slider.
5 If **Standard fill** or **Fancy fill** has been selected in step 2), a new setting will appear in the properties panel – Satin Pattern (for Standard fill) or Fill Pattern (for Fancy Fill). Select the pattern you want from the drop-down list.
6 Save the file.

Fill Properties

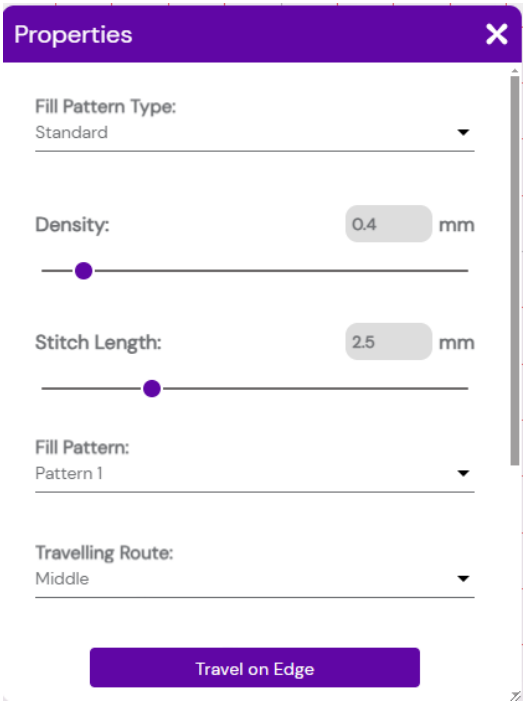
Use the "Properties" dialog to adjust properties of shape that you have created using the Fill brush. These include the density, pattern, and stitch length.

To adjust fill properties:

1 Select a Fill segment.

2 Click the Properties icon.

The Properties panel will display the fill properties.



3 In the **Density** field, enter the desired density value; this adjusts the spacing between rows of stitches in the fill.

4 In the **Stitch Length** field, adjust the length of stitches in the fill.

For both density and stitch length, you can also adjust the values by clicking and dragging the corresponding slider control.

5 In the **Fill Pattern** the drop-down list, select from a list of many different types of fill patterns available.

6 **Travel on Edge:** This is an option that allows you to change the route of the fill segment's "Traveling run stitches" so that it goes along the edge of the fill segment. By default, the "Traveling run stitches" take the shortest route, which will usually go through the middle of the fill. However, if the fill is very light (i.e. "not dense") these stitches may show through. In this case, you may want to select this option, which re-routes the "travelling run" stitches to the edge to the shape, where they will be hidden.

If needed, you can change the traveling route back to going through the middle of the segment.
On the Properties panel, in the "Traveling Route" field, select "Middle". The traveling stitches will be regenerated accordingly.

The fill segment will be adjusted accordingly.

7 Save the design.

Adjusting Jagged Steil & Satin Segments

For Jagged Steil and Jagged Satin segments, you can adjust the degree of jagged variation (that is, stitch length). You can also choose which side of the segment that it will be applied to, or have it appear on both sides.

Satin segment with different Jagged Type settings applied; from top to bottom, Both sides, First side, and Second side.

To adjust the jagged settings:

1 Select the jagged steil/satin segment.
2 In the Properties box, click the Satin tab.
3 From the Jagged type list, select one of the following jagged effect types:.
   - **Both**: Stitches will be jagged on both sides of the column.
   - **First**: The first side of the segment will have the jagged edge/
   - **Second**: The opposite side of the segment will have the jagged edge.
4 In the Jagged Value field, set the degree of "jaggedness" you want applied; note that this can be a negative or positive value:
   - A negative value to have the jagged edge on the inside of the column.
   - A positive value have the jagged edge on the outside of the column.

You can also use the Jagged Value slider to change the segment's jagged value.

You see your segment altered accordingly.

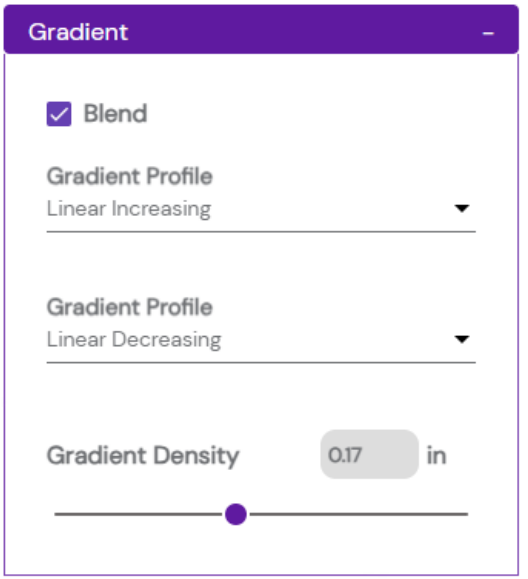
Gradient & Color Blend Properties

Gradient and Color Blend embroidery segments (including Satin, Fill, and Wave Fill) have some properties that are only applicable to these types of embroidery. These include the ability to vary the stitch density (known as the "density profile"), and to chose the pattern of density variation that will be applied to the segment (i.e. increase, decrease, or have a convex or concave pattern).

These settings also allow to apply (or, if desired, remove) a color blend to the selected segment.

To adjust Color Blend/Graduated segment properties:

1 Select a fill or satin segment.
2 In the Properties Panel, expand the Gradient settings area.
You see the Gradient properties.



3 To create a fill that includes blended thread colors, check the "Blend" option.

Note that this will already be selected if the fill was created with the" convert to Color Blend" tool.

4 In Gradient Profile drop-down list, select one of the following:

- **None**: Stitch density does not vary from the set value.
- **Linear Increasing**: Stitch density gradually increases across the width of the segment

- **Linear Decreasing:** Stitch density gradually decreases across the width of the segment

- **Concave**: The stitch density gradually decreases from a maximum value on one side of the fill to a minimum value in the center, then gradually increases again until it reaches the maximum density on the far side.

- **Convex**: The stitch density gradually increases from a minimum value on one side of the fill to a maximum value in the center, then gradually decreases again until it reaches a minimum density on the far side.

5 If **Blend** has been selected, a second Gradient Profile field will be activated in the Properties panel. repeat step (5) for the second color.

6 **Gradient Density:** All satin and fill segments have a "normal" density, set in the **Density** field for each segment, In regular segments, this is constant across the width of the segment, but in Gradient satin or fill segments, the density varies over a range, The "normal" Density value serves as the starting point (lower limit) of this range and the Gradient Density

determines the final (upper limit) density. To adjust the Gradient Density, do one of the following:

- Type a new value into the Gradient Density field, and press **Enter**.
- Click on and drag the slider to adjust the density manually.

The fill properties will be adjusted accordingly.

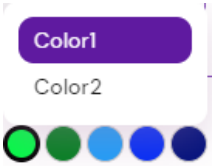
Selecting Colors for Blended Segments

When you create as Color Blended fill or Satin, it will automatically be assigned two different thread colors – one sewing from each end of the segment. The first color will be the original color of the converted segment, while the second will be assigned arbitrarily.

Use the following procedure to select new colors for these types of segments.

To select new colors for blended segments:

1. Select color-blended segment.
2. (Optional) To choose a thread color that is not in the design palette, click on the Palette button and choose a new color palette from the list.
3. On the thread palette bar, right-click the round “swatch” of the thread you want to use for the first color.
4. Select **Color1** from the “pop-up” list that appears.



5. Click on the “swatch” of the thread you want as the second color in the blend.
6. Select **Color2** from the list.

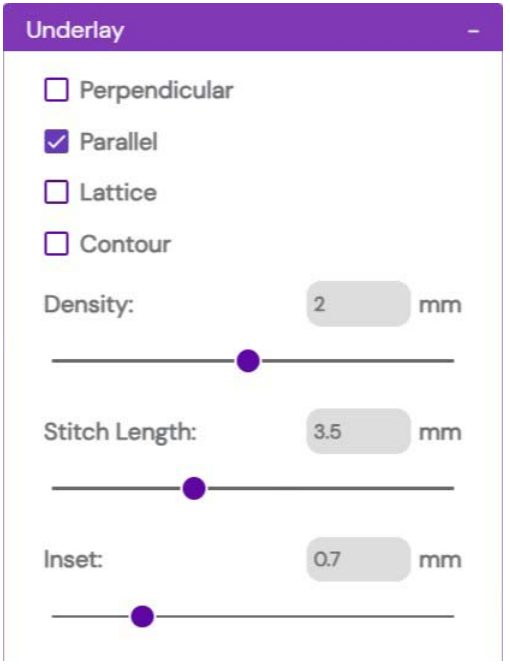
The segment colors will be changed accordingly.

Underlay Properties

Underlay stitches are laid down before other design elements to help to stabilize the surface. This can be used to hold down the raised nap of fabrics such as corduroy. Underlay can be applied to Steil, Fill, and Text segments by way of the Properties panel–Underlay tab.

To adjust the properties for underlay:

1. Select the Steil or Fill segment.
2. In the Properties panel, expand the Underlay area.



Important: Not all underlay types will apply to every kind of embroidery, For example, the image above shows the underlay types that apply to a fill segment; if a satin segment were selected instead, the list of underlay types that you can choose from would be slightly different.

3 Select the underlay type(s) you want to use by checking the box for each one: Lattice, Perpendicular, Parallel, Contour, Zig-Zag or Center Run.

Two or more underlay types can be combined to afford maximum support.

Notice that each underlay type selected will "activate" its own sliders for stitch length, density, and inset.

4 Using the **Density** slider(s) adjust the underlay density value for the selected underlay type(s).

5 Adjust the **Stitch Length** slider(s) to set the stitch length for each underlay type (does not apply to Zig Zag underlay).

6 Adjust the **Inset** slider(s) for each type of to set the inset distance.

The inset distance determines how far the underlay stitches will be inset from the edge of the top stitching.

The underlay stitches will automatically be added to the selected segment.

Pull-compensation

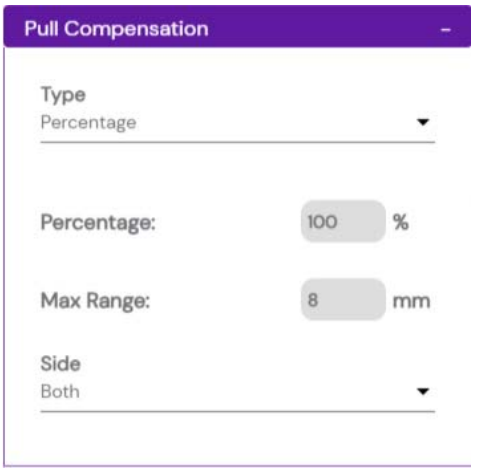
Pull-compensation is a stitch length adjustment which compensates for the "stretchiness" that occurs in certain fabrics. For example, you can add a degree of pull-compensation to prevent gaps from appearing between adjacent segments.

For those segment types that support it, you can adjust the pull-compensation on Properties panel.

To adjust the pull-compensation:

1 Select the segment.

2 In the Properties panel, expand the Pull Compensation tab.
You see the Pull Compensation settings.



3 From the Type list, select one of the following options:
- None. Makes no adjustments to pull-compensation.
- Percentage. Enter the percentage in the value % box and, if necessary, enter the maximum value of pull-compensation in the Maximum range box.
- Absolute. Enter the amount of absolute pull-compensation in the Absolute value box.

4 Choose the end (or ends) of the segment that Push compensation will be applied to:
- Both
- Side A
- Side B

The designated amount of pull compensation will be applied to the selected segment.

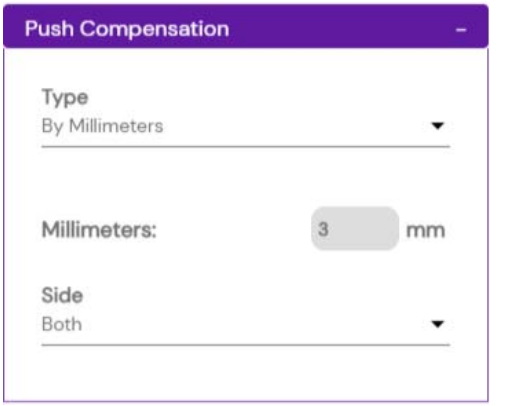
Push-compensation

During sewing, the tension from the stitches can move the stitches towards the ends of the columns. Push-compensation automatically removes stitches at the edges of columns to compensate for this effect. The reduction of stitches can be based either on the number of lines of stitches to remove or on the linear distance (in mm) from the ends of the column.

To add Push compensation to segments:

1 Select a segment.

2 In the Properties panel, expand the Push Compensation tab.
You see the Push Compensation settings.



3 Select one of the following options:
- **None**. Makes no adjustments to push-compensation.
- **By millimeters**. When this option is selected a new “millimeters” field will appear; enter the compensation length required, in millimeters.
- **By lines**. If this option is chosen, enter a number of lines to be removed from

the segment in the "By number of lines" field.

4 Choose the end (or ends) of the segment that Push compensation will be applied to:

- Both
- End A
- End B

The designated amount of push compensation will be applied to the selected segment.

Auto split Settings

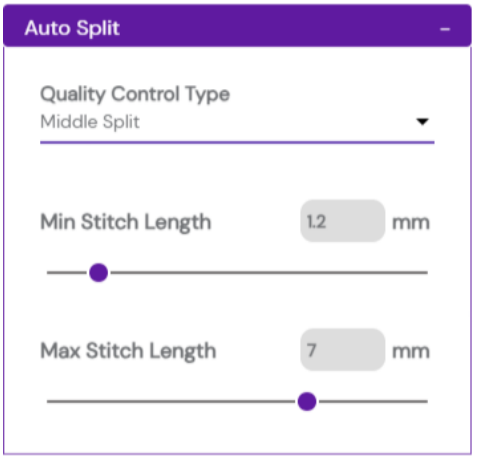
Use the Split feature of the properties tab to ensure the sew-out quality of wide satin stitches or large fill areas, by automatically splitting stitches into shorter ones. This setting can be applied to Satin columns and complex Fill segments.

When Split is enabled, extra stitches are added when any stitch gets longer than a given Maximum stitch length. This maximum length is set to 2.0 mm by default, but a this value may altered in the panel.

To apply quality control settings:

1 Select a steil, satin or fill segment.

2 On the Properties panel, click on the Auto Split heading to display the options.



3 In the Quality Control Type drop-down, select the type of split to apply:

- **None.** Stitches will not be split, even though they exceed the Maximum stitch length.
- **Random Split**: If a stitch is longer than the Maximum stitch length value, a new stitch penetration will be generated, Random Split will generate as many random stitches as necessary in between those two points to ensure no stitch is longer than Maximum stitch length.
- **Middle Split.** If a stitch is longer than the Maximum stitch length value, a new stitch penetration will be generated, Middle Split will generate a stitch at the mid-point between the two points.
- **Percentage Split:** If a stitch is longer than the Maximum stitch length value, a new stitch penetration will be generated. This new point will be inset by a distance which is determined by the percentage set in the "Percentage move in" field.

- **Absolute Split**. If a stitch is longer than the Maximum stitch length value, a new stitch penetration will be generated. This will be placed a fixed distance from the end points, which is entered in the “Absolute move in” field.

4 In the **Min Stitch Length** field, enter a value of the minimum stitch length; any stitches shorter than the set length will be filtered out.

5 In the **Max Stitch Length** field, enter a maximum value for the stitch length; any stitches longer than the set length will be filtered out.

6 Adjust the **Max Move In** parameter; this setting puts an upper limit on how far the stitch points will be moved in from the edges of the path.

7 **Both ways**: Check this option to have a Column stitch split in both directions - that is, on both the “across” and “back” stitches.

Note that the Max Move In and Both Ways settings only apply to the Absolute and Percentage quality control types.

The new settings will be applied automatically to the selected segment.

Commands Properties

The Commands settings for individual segments may be adjusted on the Properties panel. In this area, you can change the commands at the start end of each segment (change the command to a Stop, Frame out, etc) and also add lock stitches, if desired.

Selecting a Segment’s Start and End Commands

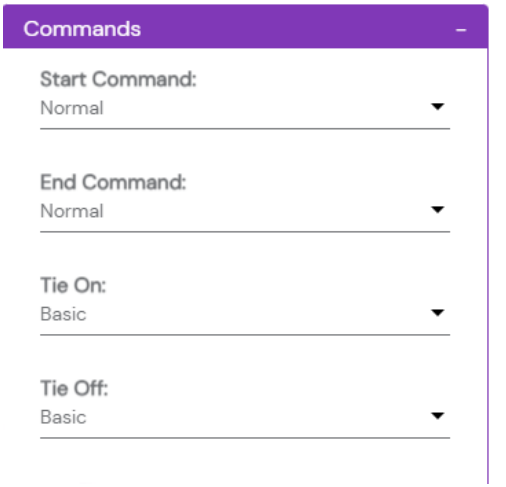
Use this property to add specific machine commands to the start and/or end of embroidery segments, such as trims, stops, and jumps.

To add a machine command:

1 Select a segment.

2 Press the Properties icon.
You see the Properties dialog.

3 In the Properties dialog, open the Commands area (you may need to scroll down to see this).



4 In the Start Command list select one of the following commands:
- **Normal:** Inserts a normal stitch.
- **Trim:** Trims the thread.
- **Jump:** Inserts a jump command, creating a stitch with the needle up.
- **Stop:** Stops the machine.
- **Frame Out:** Moves the embroidery machine's frame out to allow the operator to adjust the item being sewn on; very useful when placing an appliqué on a garment.

5 Repeat the step above for the End Command.
The commands will be updated accordingly.

Adding Tie in and Tie off Stitches

To keep the end stitches of a segment from 'pulling', you can add Tie in and/or Tie off stitch commands. These commands add a short series of overlapping stitches at the entry and exit points of the segment, effectively pinning down either or both ends of the selected segment.

To add or remove Tie in and Tie off segments:

1 Select a segment.

2 Click the Properties  icon.
You see the Properties dialog.

3 In the Properties dialog, open the Commands area (you may need to scroll down to see this).
You see the Commands settings.

4 To add a Tie-On stitch, do the following:
- Click on the small "down arrow" to the right of the Tie-on field.
You see a drop-down list.
- Select the desired tie-on stitch type ("Basic" or "Triangle").

The Tie On stitches will be added at the beginning of the segment.

5 To add a Tie-On stitch, do the following:
- Click on the small "down arrow" to the right of the Tie-off field.
You see a drop-down list.
- Select the desired tie-on stitch type ("Basic" or "Triangle").

The Tie Off stitches will be added at the end of the segment.

To Remove a Tie-on of Tie-off stitch.

1 Select a segment.

2 Click on the small "down arrow" to the right of the Tie On or Tie Off field.
You see a drop-down list.

3 Choose None from the drop-down list.
The Tie On or Tie Off stitches will be removed from the segment.

Smart Join Mode

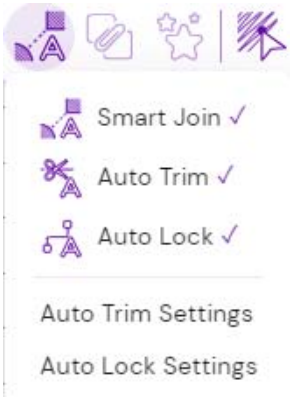
Smart Join mode is an option intended to minimize the amount of travel the machine has to make between adjacent segments

When digitizing with the Smart Join Mode enabled, the entry and exit locations of consecutive segments (the green and red beads, respectively) will be placed in such a way as to make the closest possible connections.

Note that the Smart Join Mode will be enabled by default; you will only need to turn it on if it has previously disabled.

To enable Smart Join Mode:

1 On the floating toolbar, click the Smart Join icon



2 On the fly-out menu that appears, ensure that "Smart Join Mode" is checked "on.".

Auto Trim

The Auto Trim functionality automatically inserts trims around each segment as you digitize it. This can save time by eliminating the need to select segments and insert trims for each one individually.

Note that Auto Trim will be enabled by default; you will only need to turn it on if it has previously disabled.

To enable Auto Trim:

1 On the floating toolbar, click the Smart Join tool to open the "Auto" tools fly-out menu.

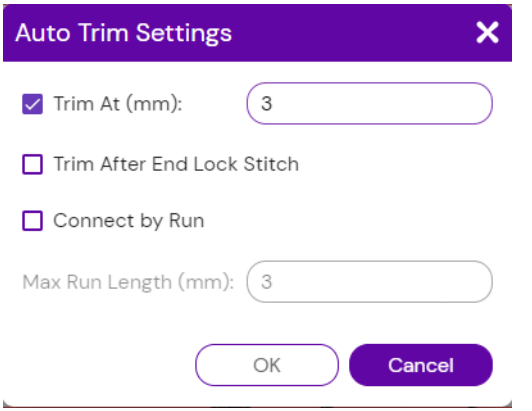
2 On the fly-out menu that appears, ensure that Auto Trim is checked "on.".

Auto Trim Settings

The Auto Trim settings determine when Trims occur, by setting the space between segments that is required to trigger a trim. These settings also have an option to Connect by Run, within the scope of a "Max run distance" which you can also set.on this dialog.

To adjust Auto Trim settings:

1 Click the Smart Join icon and select **Auto Trim settings** from the fly-out menu.
You see the Auto Trim Settings dialog.



2 In the **Trim At** field, enter the trim "tolerance" you want to apply.
This "tolerance" means that a trim will be inserted whenever there is a gap of this distance (or larger).

3 Check **Trim after end lock stitch** to add a trim after the lock stitches of each segment.

4 Check **Connect by run** option to generate a running stitch between trims.
5 If Connect by Run is checked, the **Max Run Length** field will become active. Enter the desired maximum length (in mm) for the connecting run stitches.
6 Click OK.
The settings will now apply to the Auto Trim function

Auto Lock

Auto Lock mode is function that automatically inserts lock stitches to segment as they are added to the design. The exact situations when locks are placed will depend on the Auto Lock settings that have been configured; see the paragraph below for details.

To enable Auto Lock:

1 On the floating toolbar, click the Smart Join tool to open the "Auto" tools fly-out menu.
2 On the fly-out menu that appears, ensure that the Auto Lock option is checked "on."..

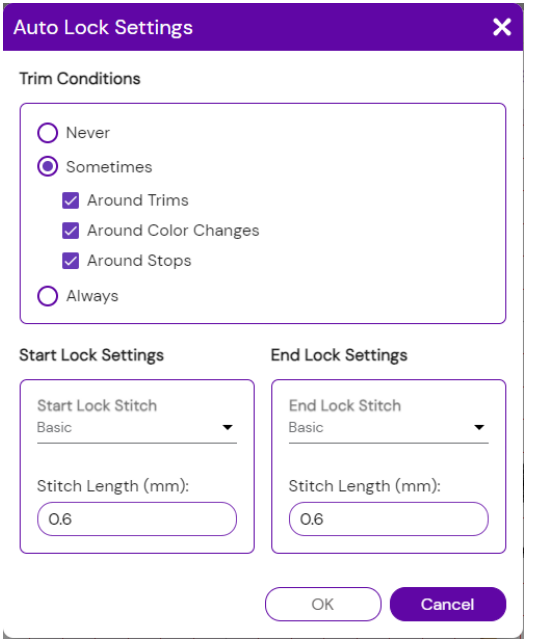
Note that Auto Lock will be enabled by default; you will only need to turn it on if it has previously disabled.

Auto Lock Settings

In the "Auto" settings, you will see an "Auto Lock Settings" option. Click this option to set lock stitch properties.There are different areas for Start lock and End lock properties, so that you can have different lock types for each position.

To adjust Auto Lock settings:

1 Click the Smart Join icon and select **Auto Lock settings** from the fly-out menu.
You see the Auto Trim Settings dialog.



2 In the dialog, select the conditions for placing a lock stitch by selecting one of the radio buttons:
- Never (no lock stitches)
- Sometimes
- Always.

3 If **Sometimes** has been selected in the previous step, check one or more of the following to determine where a lock stitch will be placed.
- Around trims.
- Around color changes.
- Around stops.

4 In the **Start Lock Settings** area, do the following:
   - In the **Start Lock Stitch** drop-down list, select the lock stitch you want to have applied (options are None, Basic or Triangle).
   - In the Stitch Length field, select the stitch length that will be used for the Lock stitches, in mm.
5 Repeat the step (4) for the **End Lock Settings.**
6 Click OK.
   The new Lock Stitch settings will now be applied whenever Auto Lock mode is on.

Transform Properties

Any segment or group in a design can have its height, width and rotation changed using the controls in the Transform Properties.

The Transform Properties area includes input fields for height and width. When adjusting the height or width, you can preserve the object's shape by selecting the "Maintain aspect ratio" option. It also has buttons for rotating the selection by 45º or 90º clockwise or counter-clockwise.

To transform objects using the Properties Panel:

1 Select one or more segments you want to resize and/or rotate.
2 In the Properties panel, expand the Transform tab.
3 To resize the segment(s), do the following:
   - In the Width field, enter the width you want for the selected object(s).
   - In the Height field, enter the height you want for the selected object(s).
   - To maintain the proportions of an object while resizing it, select Maintain aspect ratio if not already selected.

   The selected segment(s) will be resized.
4 To Rotate the selected segment, select one of the following:
   - Rotate 90º  counter-clockwise.
   - Rotate 45º  counter-clockwise.
   - Rotate 45º  clockwise.
   - Rotate 90º  clockwise.

   The selection will be rotated accordingly.
5 Save the design.

CHAPTER 3

Text Tools and Properties

The Embroidery Legacy Designer software includes Text tools for personalizing your embroidery projects. There are five different text tools available (Text, Circle, Vertical, and Monogram) to choose from; select the one that best fits your needs.

In addition to the Text creation tools, there is also a very useful Edit Text tool. This tool allows you to make small adjustments to your text segment (for example, to move individual letters within a word) to better work with your design projects.

Topics covered in this chapter:

- Creating text with all of the text tools
- Using the Text Edit tool select and edit text segments, including editing individual letters
- Editing the properties of text segment in the Properties panel.

Using the Text Tools

You can add a text to designs using the Text tool. This tool places a generic string of text in the design, which you can subsequently modify in the properties panel.

When you insert text into a design, it will appear in an adjustable “text frame” – the shape of this frame will vary depending on which kind of text tool you use (e.g. the Vertical frame looks different than the Circle text frame, etc.

You can also adjust the appearance of the resulting text in the “Properties” panel on the right side of the workspace - see the “Adjusting text properties” procedure, below, for more details.

There are five different text “modes” available in Embroidery Legacy Digitizing:

- **Text**: Creates regular, linear text segments
- **Circle text**: Creates text that follows a circular path.
- **Vertical text**: Creates text in which the letters read vertically downward.
- **Monogram text:** Creates three-letter monograms.

Note regarding font types: when selecting a font, you can choose either a regular embroidery font or from a list of TrueType fonts. The font type is selected in the Properties panel; see “Adjusting Text Properties” later on in this chapter.

To add text to the design:

1 On the “floating” toolbar, click the main text tool to open the text “fly-out” menu.
You see the list of all text tools.

2 Select the text tool you want to apply.
A text frame will appear in the workspace, containing some placeholder text.
The form of the text frame will be different, depending on the text tool chosen (e.g. the Circle frame looks very different from the normal text frame).

3 Click in the design workspace to place the text string.
A default text string (“Text”) now appears in the design.

4 To change the text and its properties, open the Properties panel.
See the following sections under “Adjusting Text Properties” for more details on the text properties.

If you want to create a segment with two or more lines of text, you can do this within the “Text” field of the properties panel by pressing the “Enter” key between lines.

5 When finished adjusting the text’s segment properties, save the design.

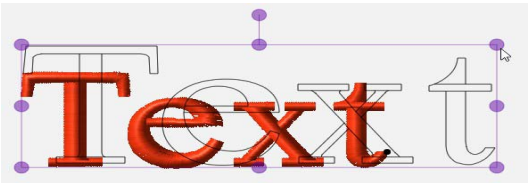
About Text Frames

You can modify your text in a number of different ways once you have created it. You can change the overall size of the text, the height, the slant, the spacing between letters (kerning), and so on.

Important: To adjust the text segment as a whole, remember to select it using the Select tool; to adjust individual letters within a text segment, select them using the Text Edit tool.

Adjusting Size of a Text Segment

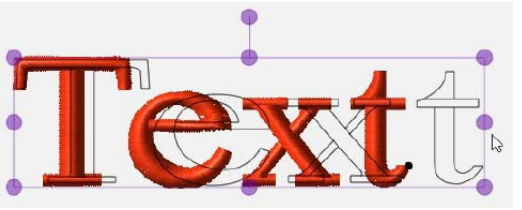
The size of a text segment manually using corner "handles" of the text frame. Dragging you can adjust the overall size of the text.



Note that size of the text changes proportionally; that is, when you increase the size of the segment, the height will increase to the same degree as the width.

Adjusting the Text Width/ Height

If you want to change the width or height of text while leaving the other dimension unchanged, there are width and height frame handles to do this. These are small circles located at the mid-points of the sides and top, respectively, of the text frame.

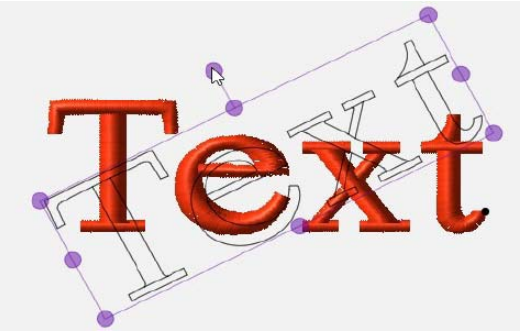


Click and drag the left or right handles to adjust the width, or the top or bottom handle to adjust the height.

Rotating a Text Segment

Use the Rotation handle to change the angle of a text segment. The rotation handle is the small purple circle at the top of the "stem" at the top of the text frame.

To rotate a segment, first position the mouse over this handle so that the cursor changes to a circle-arrow handle . Then, drag the handle from side to side to rotate the segment to the desired angle.



Individual Letter Editing

When you have selected a word (or any string of text) with the “Text Select” tool, it allows you to select and adjust individual letters.

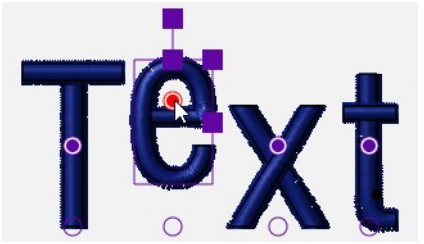
Once selected, you will see that the letter is enclosed in its own selection frame; using these frames, you can move, rotate, and resize it. You can also change the spacing of letters within the word with the special spacing handles.

To select a letter, click on its Letter handle, which is the small circle located at the centre of each individual letter.

Important: To adjust individual letters within a text segment, select them using the Text Select tool. To adjust the text segment as a whole, to select it using the select tool;

Moving Individual Letters

Individual letters can be moved using the Letter handles, which are small circles located at the center of each letter in the text.



When you “hover over” the handle, it will be highlighted in red. You can then adjust the letter’s position by dragging with the mouse.

Resizing Individual Letters

When an individual letter has been selected, you can resize it by clicking and dragging the letter handles. These handles are large purple squares located in the corner, top, and sides of the letter frame.

There are three different ways that the Resizing Handles can be used:

- To change only the width of the letter, click and drag the square on the right side of the letter frame.
- To change only the height of the letter, click and drag the square on top of the letter frame.
- To change both width and height at the same time. click and drag the square located on the top-right corner of the frame. Note that this action adjusts the letter size proportionally.

Stitches will regenerate automatically as soon as you release the mouse after dragging.

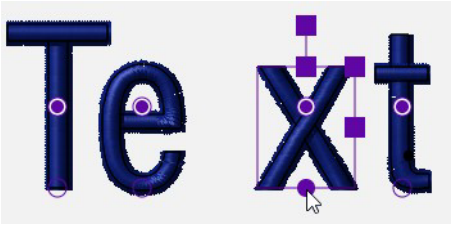
Rotating Individual Letters

When you select an individual letter with its Letter Handle, you can rotate it by clicking and dragging the Letter Rotation Handles. The Letter Rotation Handles are the green circles at the corners of the Letter Frame. When you hover over these handles, the mouse pointer will become a circle with arrows, like this.

Drag up to rotate counter-clockwise, and down to rotate clockwise. As you rotate, the tool displays an outline preview of the letter, showing how far you are rotating it.

Manual Letter Spacing

The space between individual letters can be adjusted using the kerning Handles. These are the small purple circles located at and bottom of each letter (when selected).



You can drag these horizontally to adjust the spacing between letters text.

Breaking up Text

Sometimes, you may want to fine-tune the column or fill stitches in an individual letter. This is possible, but the text segment must be "broken up" first – that is, separated into individual letters. After the Text is broken up, the letters can be selected and adjusted individually.

Note that once a text segment has been broken up, you will no longer be able to edit it as a whole in the Text properties panel.

To Break up a text segment:

1 Select the text with the Select tool.

2 Right-click and select Breakup Text from the context menu.
The letters will now be individually editable. Note that the letters will appear as individual segments in the sequence view.

Text Properties

If a text segment is selected, the fields in the Properties dialog will change to show those properties that specifically apply to the type of text selected. For example, you can adjust letter spacing, height, and choose a font to apply. Alternatively, you can select the "True Type Fonts" option to choose from a list of TrueType fonts.

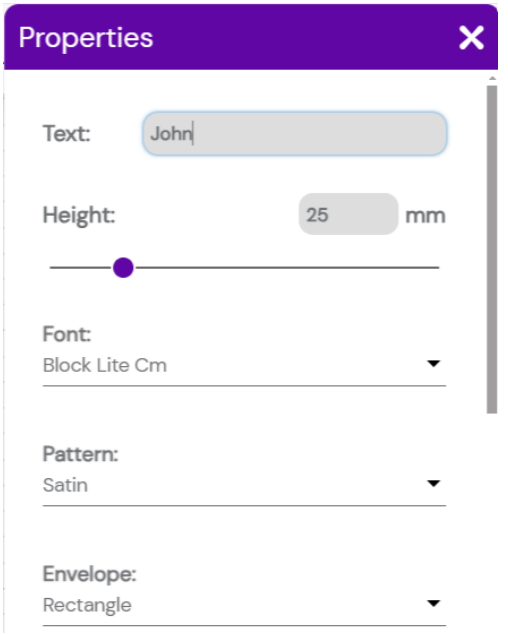
The properties that you will see displayed will be slightly different depending on which type of text is currently selected.; for example, when a Circle frame is selected, this area will show two places where you can input text, labelled 'Upper' and 'Lower'.

To adjust text properties:

1 On the toolbar, click the Select tool and select a text segment.

2 Click the Properties icon.

The Properties panel.now displays the text property fields.



3 In the **Text** field, type in the text string you want to add; to create a text segments with multiple lines, press **Enter** to create new lines in the "Text" field (applies only for text created with the "normal" text tool).
After entering multiple lines, click in the bottom-right of the text field to refresh the view of the text segment in the design workspace.

If the text "input mode" is Circle Text, there will be two text fields: one for the "top" text and one for the "bottom" text.

4 To adjust the letter height, enter a value in the **Height** field OR drag the slider control left or right

5 **Font:** Click in the font field to display a list of available fonts. Select the one you want from the list, and the selected text will be automatically changed into that font.

Not all fonts will contain include all the letters that you want to use in your message; to see the list of characters in each font, click the small "i" icon to the right of the font name.

6 **True Type Fonts:** By default, the fonts available to you in the "Font" drop-down list will be the embroidery fonts that are installed along with Tick this box to select from a list of TrueType fonts instead.

7 **Style** (applies only to TrueType fonts): From the drop-down list, choose the embroidery type of the TrueType text. Choose either Fill, Satin, or Artwork (i.e., outlines without any stitches).

8 **Pattern**: Text segments will use a satin fill by default, but you can choose a different fill pattern from the drop-down list in the Pattern field.

9 **Envelope**:.This option allows you vary the shape of your text segment. Select a predefined envelope shape (e.g. "Concave top") from the drop-down list.

Envelopes cannot be applied to Circle or Vertical text segments.

10 **Sew sequence**: This setting determines the position in the text segment at which the sewing will begin. Choose between Left, Right or Center.

11 **Justify:** Determines horizontal position of the text relative to the baseline; for multi-line text segments, aligns the words in the segment together. Select either **Left**, **Center**, or **Right** from the drop-down list.

12 Outline Type: Select the type of outline/file combination you want to apply: **Default**, **Run**, or D**efault with Run.**
For more details on this setting, see the section "Outline Type for Text" below.

13 **Density:** Determines the stitch density of the text fill, i.e. the distance between individual lines of embroidery.
You can adjust density either by dragging the slider control or by entering a numerical value in the Density field.

14 **Spacing**: The spacing property controls the horizontal distance between letters in a text segment. Note that you can both increase (by entering a positive value) or decrease (by entering a negative value) the spacing between letters.

15 **Line spacing** (multi-line text only): This sets the distance between lines of text in a multi-line lettering segment. The value is set in terms of a percentage of the default letter height.
Note that this parameter can only be applied to text segments created with the "normal" text tool.

16 **Slant**: This sets the angle of the lettering compared to the vertical. A negative value slants your lettering to the left; a positive value slants it to the right.

17 **Width**: The "Width" property adjusts the overall width of the selected text as a percentage of the original size. This setting can be useful (for example) to adjust text so that it fits within a given hoop.

18 **Autocolor Character:** The autocolor option is a quick way create colorful text segments. Applying this setting inserts a color change between each letter in the selected text.

19 **Connection type**: The connection type setting determines how individual letters are connected within the text segment. Choose one of the following options from the list:
- **As Digitized**: The letters are connected using the original digitized order.
- **Closest**: Connections move to the nearest point between letters
- **Furthest**: Connections will move to the furthest point between letters.

20 From the **Trims** list, select one of the following to determine when a trim will be applied to the text:
- Never.
- Always.
- Trim.

21 In the **Lock Type** area, select one of these options to determine when lock stitches will be applied:
- Never.
- Always.
- Around Trim.
- Underlay settings

22 Save the design.

The Properties panel also allows you to adjust the Commands and Underlay properties of text. For details on these properties, look under the “Commands Properties” and “Underlay Properties” headings, later in this chapter.

Outline Type for Text

The “Outline type” property is an option in the text properties that determines the embroidery stitch types that make up the text segment. There are three different Outline types available: Default (satin fill of various types), Run, and Run with Satin.

Default setting; fill stitches will be displayed exactly as digitized (satin

The Run type will apply only a run stitch that follows the segments

The Satin with Run type sews out the satin fill and then follows this with a run stitch along the outline.

Note that the “Outline Type” does not apply to all the installed fonts, only those that have been digitized to include outlines.

To apply the text Outline Type:

1. Select an outline text segment.
2. Open the Properties panel.
3. In the **Outline Type** drop-down list, select one of the following options:
   - Default
   - Run
   - Default with run.
4. *The text segment’s stitches will be re-generated accordingly.*

Underlay for Text

Underlay stitches are stitches that are sewn underneath the visible text stitches to help to stabilize the surface. There are multiple types of underlay stitching, which can be combined, if desired, to create the optimal amount of support.

To adjust the properties for underlay:

1. Select a text segment.
2. In the Properties panel to expand the Underlay area.

3 Select the underlay type(s) you want to use by checking the box for each: Contour, Perpendicular, Parallel, Zig-Zag or Center Run.

Two or more underlay types can be combined to afford maximum support. Notice that each underlay type will "activate" its own sliders for stitch length, density, and inset.

4 Using the **Density** slider(s) adjust the underlay density value for the selected underlay type(s).
5 Adjust the **Stitch Length** slider(s) to set the stitch length for each underlay type (does not apply to Zig Zag underlay).
6 Adjust the **Inset** slider(s) for each type of to set the inset distance

The inset distance determines how far the underlay stitches will be inset from the edge of the top stitching.

The underlay stitches will automatically be added to the selected text segment.

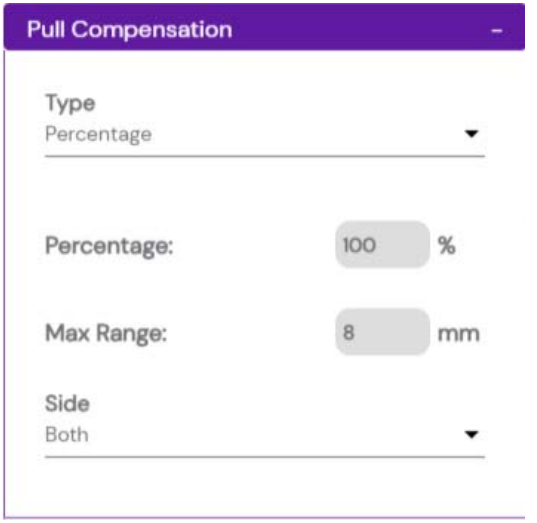
Pull-compensation for Text

Pull-compensation is a stitch length adjustment which compensates for the "stretchiness" that occurs in certain fabrics.

When working with text segments, you can use the on the Properties panel to adjust the pull-compensation settings.

To adjust the pull-compensation:

1 Select a text segment.
2 In the Properties panel, expand the Pull Compensation tab.
You see the Pull Compensation settings.



3 From the Type list, select one of the following options:
- None. Makes no adjustments to pull-compensation.
- Percentage. Enter the percentage in the value % box and, if necessary, enter the maximum value of pull-compensation in the Maximum range box.
- Absolute. Enter the amount of absolute pull-compensation in the Absolute value box.

4 Choose the end (or ends) of the segment that Push compensation will be applied to:
- Both
- Side A
- Side B

The designated amount of pull compensation will be applied.

Transform Properties

You can adjust the height, width and rotation changed of any text segment using the controls in the Transform Properties.

The Transform Properties area includes input fields for height and width. When adjusting the height or width, you can preserve the object's shape by selecting the "Maintain aspect ratio" option. It also has buttons for rotating the selection by 45º or 90º clockwise or counter-clockwise.

To transform objects using the Properties Panel:

1. Select a segment or group
2. In the Properties panel, expand the Transform tab.
3. To resize the segment(s), do the following:
   - In the Width field, enter the width you want for the selected object(s).
   - In the Height field, enter the height you want for the selected object(s).
   - To maintain the proportions of an object while resizing it, select Maintain aspect ratio if not already selected.

   The selected segment(s) will be resized.
4. To Rotate the selected segment, select one of the following:
   - Rotate 90º  counter-clockwise.
   - Rotate 45º  counter-clockwise.
   - Rotate 45º  clockwise.
   - Rotate 90º  clockwise.

   The selection will be rotated accordingly.
5. Save the design.

CHAPTER 4

Drawing Lines, Shapes and Artwork

You can modify line (artwork) segments using artwork tools. T

Topics covered in this chapter:

- Changing between the different drawing modes that are available (Free mode, Line mode, Bezier, and Fast Draw.
- Completing shapes with the Close Shape tool
- Editing anchor points; adding, deleting, and/or converting them to a different type

Drawing Modes

When drawing shapes in Embroidery Legacy Digitizing, you can use various different drawing “Modes”. A drawing mode is a method of inputting anchor points. The drawing mode you want use depends your also on the shape you are creating.

Freehand mode

Freehand mode allows you to plot points by clicking and dragging. It does not allow you to see the shape until all points are plotted and you complete the route for the segment. To complete the route, press **ENTER** after you plot all points.

Freehand mode produces many anchor points giving you increased control over the shape of the curves. Once you complete the segment, you see anchor points and direction lines.

Line mode

Line mode places a straight line between anchor points without direction lines. Straight mode gives you more control to punch straight points. This mode is only available for the Manual and Cross-stitch tools.

Bezier mode

In Bezier mode, you can enter both straight and curved points. When you click the mouse you insert an anchor point and you can drag direction lines to change the shape of the curve. It can be difficult to punch shapes with many straight angles using Bezier mode.

Fast Draw mode

Fast Draw mode gives you the flexibility and control you need to toggle between entering straight and curved points. To place a straight point, left-click the design workspace. To place a curved point, right-click the design workspace. To close a segment, press **O**.

Curved points should be entered as a set of 3 points that define the arc of the curve.

Drawing with the Line tool

The Line tool places a straight line between anchor points without direction lines. You will have more control to punch straight points.

If you make mistakes as you draw, undo your last action by pressing Backspace.

You can use the line tool to draw both open and closed shapes, depending on whether or not you apply the Close Shape tool before right-clicking to complete the segment. (You can also make an open shape into a closed shape by applying the Close Shape  tool after completing it).

To create a shape using the Line tool:

1 On the toolbar, click the Line  tool.

If you were already using another drawing tool to create a segment, you can press Q to switch tools and continue creating the segment using the Line tool.

2 To place a straight point, left-click the design workspace.

3 To place a curved point, complete the following:
- While you left-click the design workspace, press and hold CTRL on your keyboard.
  You see a preview of the curve before you place the next anchor point.
- To create a corner point or to begin creating a straight line again, release CTRL on your keyboard.

Curved points should be entered as a set of 3 points that define the arc of the curve.

4 To complete the segment as an open shape, right-click to complete the segment.
5 To create a closed segment, do either of the following:
- On the View toolbar, select the Close Shape tool.
- Press **H** on your keyboard.

6 Right-click to complete the segment..

The tool will remain active after you right-click, so you can continue to draw more artwork. To deactivate the Line tool, click on the Select tool.

Closing Open Segments

Embroidery Legacy Digitizing includes a tool that quickly closes any selected open "path" segments (for example, Run, Steil or Applique paths). When you apply this tool, the open ends of the outline path will be closed, and the stitches in the path will be joined (continuous) as well.

To close open segments:

1 Click the Select tool.
2 Select an open-ended segment.
The selected segment is enclosed in a selection frame.
3 Click the Close Shape tool.
The gap in the selection will now be closed.
4 Save the design.

Anchor Point Editing

Adding and Deleting Anchor Points

You can add or delete anchor points on any path. Anchor points give you control over the shape of the path.

To add an anchor point:

1 Select a segment.
2 From the Edit toolbar, click the Shape tool.
3 Right-click the location where you want to add an anchor point.
You see a shortcut menu.
4 Choose Add Point from the shortcut menu.

To delete an anchor point:

1 Select a segment.
2 From the Edit toolbar, click the Shape tool.
3 Right-click the anchor point you want to delete.
You see a shortcut menu.
4 Choose Delete Point from the shortcut menu.

Changing the Properties of an Anchor Point

You can change an anchor point to line, cusp, smooth or symmetrical to create different effects for curves.

To change an anchor point to line, cusp, smooth or symmetrical:

1 Using the Select tool, select a segment.

2 From the Edit toolbar, click the Shape  tool.

3 Right-click the anchor point you want to change.
You see a shortcut menu.

4 Choose one of the following types of anchor points available:

- **Line.** Removes the direction lines from the anchor point. Creates a straight point without any curved properties.
- **Cusp**. Allows editing of the direction line on one side of the anchor point. Adds a sharp bend to a curve.
- **Smooth**. Constrains the angle of the direction lines to 180 degrees and allows you to vary the length of the direction line on one side of the anchor point. Creates a smooth transition between curved lines.
- **Symmetrical**. Constrains the angle of the direction lines to 180 degrees so the direction lines have the same length on each side of the anchor point. Creates some curvature on both sides of the anchor point.

You see the segment change accordingly.

Moving Anchor Points

You can move and drag anchor points to adjust the shape of a curve.

To move anchor points:

1 Select a segment.

2 From the Edit toolbar, click the Shape  tool.

3 Click the anchor point you want to move.

4 Drag the anchor point to create the desired shape for the segment.

Modifying Artwork

Slicing Segments

The slice tools can be used to split any kind of outline segment into smaller segments for better results when digitizing. Slicing a segment results in two “daughter” segments; these will have the same properties as the original segment (i.e. color and fill).

In some cases, such as when you want to apply a Run or Satin stitch type to the sliced artwork, you may not want to close the ends of the segment. For this reason, there are different slice tools for creating open or closed artwork segments.

The following paragraphs outline the different functions of the various slice tools.

- **Slice**  : When an outline segment is sliced with the “regular” Slice tool, the resulting pieces will have closed ends.
- **Slice Object**  : When you use this tool to slice a segment, the start and end points

of the slice line automatically "snap" to the outline of the artwork where you click

- **Slice Open**  **:** When a closed segment is sliced with the Slice Open tool the resulting pieces will have open ends.
- **Slice Gap**  : Works like the other slice tools, except that a gap is created between the two resulting segments. The width of the gap can be adjusted in a pop-up dialog.
- **Slice Overlap**  : Works like the regular Closed Slice tool, except that some overlap is retained between the two resulting segments. The amount of overlap can be adjusted in a pop-up dialog.

Note that you can create curved slice lines for any of the above tools by using the Bezier drawing mode.

To use the Slice tool:

1 Using the Select tool, select the path segment you want to slice.
2 On the Edit toolbar, click on the small right-pointing arrow under the Slice tool.
You see a fly-out menu of the slice tools.
3 Select the Slice  tool.
4 Click on (or just outside) the point on the selected path where you want to slice it.
5 Click on the other side of the selected path to draw the slice line.

When drawing the Slice line, make sure that the line goes through the whole shape; otherwise the slice will not be created.

6 Right-click to finish the slice.
The segment will be split along the drawn line; the two "daughter" segments will be closed along the slice.

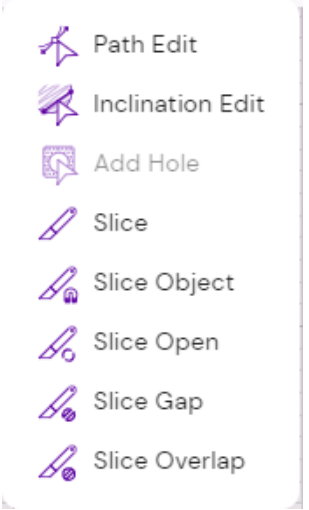
To use the Slice Object tool:

1 Using the Select tool, select the path segment you want to slice in two.
2 On the Edit toolbar, click on the small right-pointing arrow under the Slice tool.
You see a fly-out menu of the slice tools.
3 Select the Slice Object  tool from the fly-out menu.
4 Click on one side of the artwork to place the start point of the slice line.
5 Click on the other side of the artwork to place the end point of the slice line.
6 Right-click to finish the slice.
The segment will be split along the line between the two points.

If you want to slice the object into multiple pieces, you can repeat step 5) to create more slice lines before completing the slice.

To use the Slice Open tool:

1 Using the Select tool, select the path segment you want to split.
2 On the floating toolbar, click on the small right-pointing arrow under the Slice tool.
You see a fly-out menu of the slice tools.



3 Select the Slice Open tool from the fly-out menu.

4 Click on (or just outside) the point on the selected path where you want to slice it.

5 Click on the other side of the selected path to draw the slice line.

When drawing the Slice line, make sure that the line goes through the whole shape; otherwise the slice will not be created.

6 Right-click to finish the slice.
The segment will be split along the drawn line; the two "daughter" segments will have open ends.

To use the Slice Gap tool:

1 Using the Select tool, select the path segment you want to slice.

2 On the Edit toolbar, click on the small right-pointing arrow under the Slice tool.
You see a fly-out menu of the slice tools.

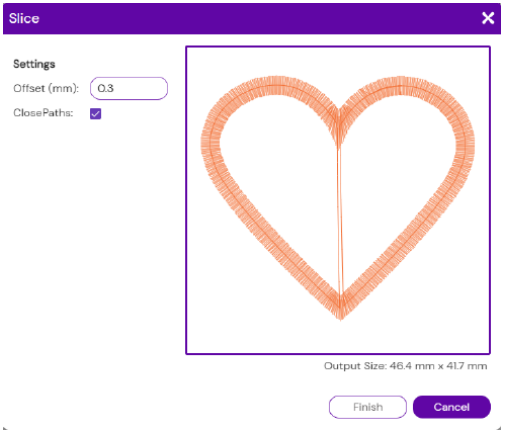
3 Select the Slice Gap tool.

4 Click on (or just outside) the point on the selected path where you want to slice it.

5 Click on the other side of the selected path to draw the slice line.

When drawing the Slice line, make sure that the line goes through the whole shape; otherwise the slice will not be created.

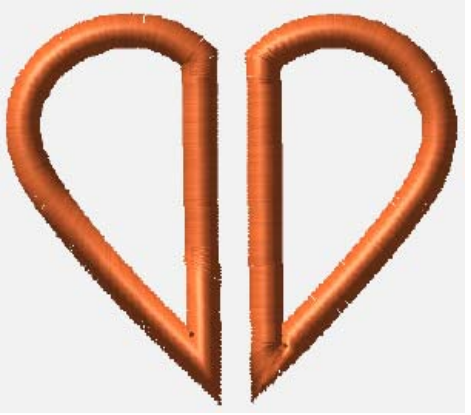
6 Right click to apply the slice.
You see the Slice Gap dialog window, showing the selected artwork with the gap applied to it.



7 Adjust the width of the gap, if required.

By default, the "Close paths" option will be checked. To leave the ends of the paths open, uncheck this box before proceeding.

8 To apply the slice, click Finish.
The path appears in the workspace with the gap added between the "daughter" paths.



To use the Slice Overlap tool:

1 Using the Select tool, select the path segment you want to slice.

2 On the Edit toolbar, click on the small right-pointing arrow under the Slice tool.
You see a fly-out menu of the slice tools.

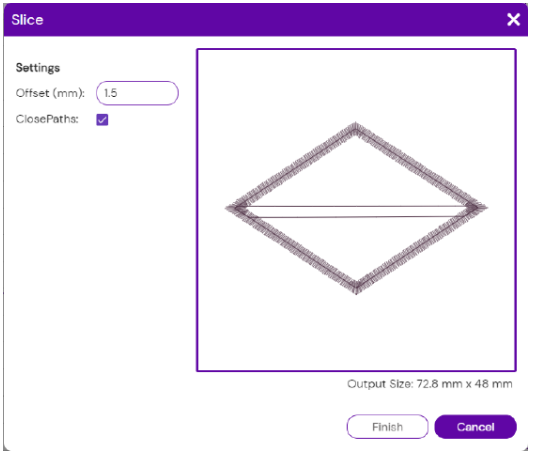
3 Select the Slice Overlap tool.

4 Click on (or just outside) the point on the selected path where you want to slice it.

5 Click on the other side of the selected path to draw the slice line.

When drawing the Slice line, make sure that the line goes through the whole shape; otherwise the slice will not be created.

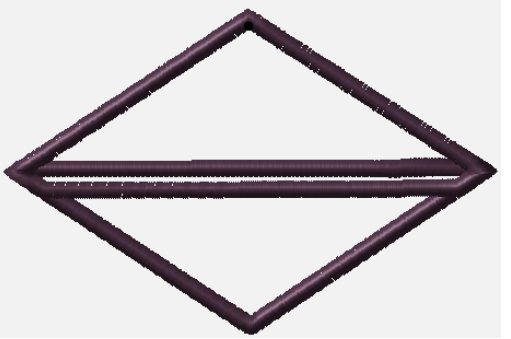
6 Right click to apply the slice.
You see the Slice Overlap dialog, showing the selected artwork and the degree of overlap applied to it.



7 Adjust the amount of overlap, if required.

By default, the "Close paths" option will be checked. To leave the ends of the "daughter" paths open, uncheck this box before proceeding.

8 To apply the slice, click Finish.
The sliced path appears in the design workspace with the specified overlap maintained between the "daughter" paths.



Converting artwork to perfect squares or circles

The “Convert to perfect Square/Circle” tools can be used to correct designs with circular or rectangular artwork segments that are not perfectly rounded or perfect squared-off at the corners.

Note that these two tools only apply to artwork-type segments, not embroidery. If you want to make a perfect circle or square out of an existing embroidery segment, you must first convert it to artwork, apply the tool, and then convert it back to embroidery.

Convert to Perfect Square makes the corners exactly 90º and the sides exactly straight. The largest dimension (horizontally or vertically) of the original shape will be used as the size (side dimension) of the new square.

Convert to Perfect Circle smooths out the curves on a outline so that they have an even curvature. The largest dimension of the original shape will used to determine the size (diameter) of the new circle.

To convert to a perfect square or circle:

1 Select an artwork segment.
2 On the Convert toolbar (bottom of the workspace) select one or the other of the following:

- Convert to Perfect Square .
- Convert to Perfect Circle .

The shape of the artwork will change accordingly.

Artwork Edit tools

The Artwork Edit tools are a set of powerful options for editing artwork segments. You can use to use the Weld, Intersect or Trim tools when two or more overlapping artwork segments are selected.

Artwork Edit tools can be applied two different ways – by using the tools on the Transform toolbar, or by right-clicking on the selected artwork and selecting the tool from the context menu.

The effect of each of these tools is described separately, following the procedure.

To apply the Artwork Edit tools using the toolbar:

1 Select two or more overlapping artwork segments.
2 On the floating toolbar, select the Combine tool to open the Artwork Edit menu.

The Artwork Edit tools appear on a drop-down list.

3 Click the tool you want to apply:

- Weld
- Exclude
- Intersect
- Trim
- Divide

The selected segments will be modified accordingly.

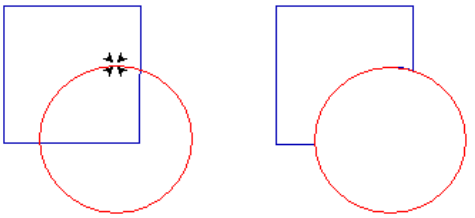
To apply the Artwork Edit tools using the Context menu:

1. Select two or more overlapping artwork segments.
2. Right-click and choose **Artwork Edit** from the menu.
3. Select one of the following Artwork Edit tools:
   - Weld
   - Intersect
   - Exclude
   - Divide
   - Trim

   The selected segments will be modified accordingly.

Trim Tool

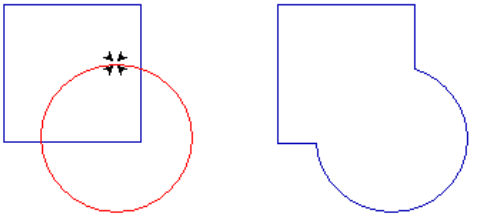
The selected segments remain separate after you use the Trim tool. This tool will delete any outline of a segment that is behind in the layering. For example, if Segment 1 is behind Segment 2 in the sequence, any area of Segment 1 that lies underneath Segment 2 will be removed from Segment 1.



Weld Tool

The Weld tool merges all selected artwork into one segment. The shape of the new segment combines all of the selected segments. All overlapping areas will be removed from the new segment.

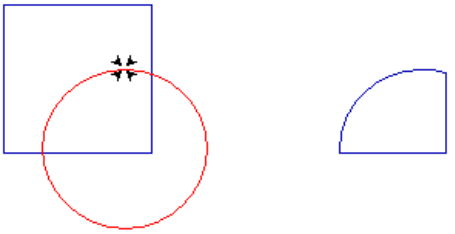
If one or more of the selected segments are overlapping and contain a hole, the holes will be united together.



Intersect Tool

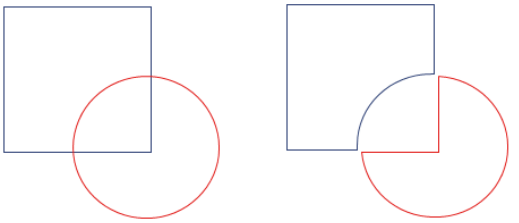
The Intersect tool preserves the overlapped area of selected artwork segments and deletes the remaining areas. The overlap area is now one segment.

In order for the Intersect tool to work, all of the selected segments must overlap in the same area.



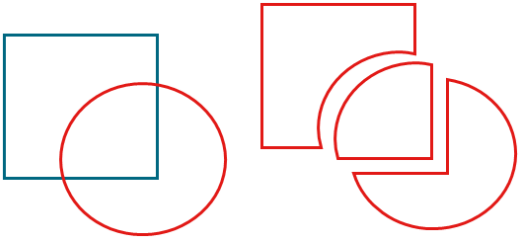
Exclude Tool

When you apply the Exclude tool, all overlapped areas of selected segments are deleted and the remaining areas are preserved. The artwork segments remain separate.



Divide Tool

The Divide tool slices intersecting artwork objects into separate segments. The slices are made at each point where two outlines intersect, and new outlines are created to close the resulting gaps.



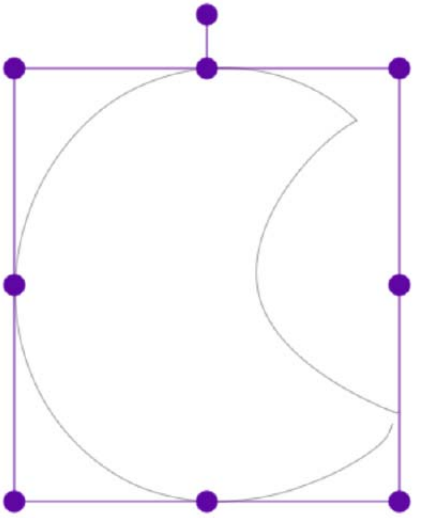
Contour Tool

The Contour tool creates a series of concentric artwork paths, which follow the contour of the selected artwork path or outline segment.

You can also opt to place the outlines on the inside, outside, or both sides of the original selection.

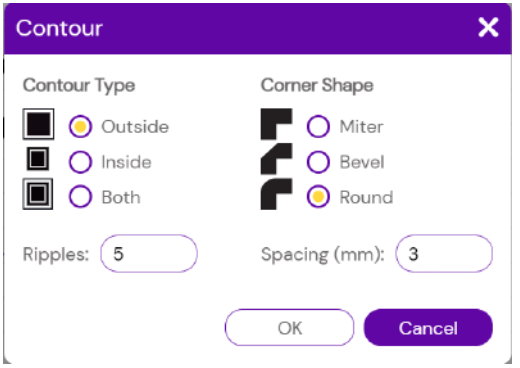
To use the Contour Tool:

1 Using the Select tool, select an object in the workspace.



2 On the floating toolbar select the Contour tool.

You see the Contour Dialog.



3 In the dialog, do the following:
- Select the placement of the contours: inside, outside, or on both sides of the original selection.
- Choose the desired corner shape by selecting the corresponding radio button: Mitre, Bevel, or Round
- Set the number of Ripples. This determines how many times the spiral will go around the template.
- Set the spacing. This setting determines the separation between the ripples (in mm).

4 Click OK.
The Contour artwork will now appear around the original design.

The resulting contour artwork. In this case, the number of Ripples was set to 3

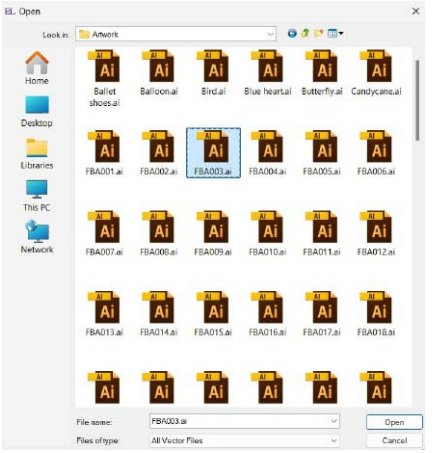
Import Vector Artwork

The Import Vector Art tool loads vector files as artwork segments. You can import the following types: Windows Metafile(*.WMF), Scalable Vector Graphics (*.SVG) and (*FCM).

Vector files define the various lines and curves of an image using a set of vector curves. When you import a piece of vector art into software separates the artwork for you and you can use the Combine and Breakup commands to join or separate the parts of the vector file as needed.

To import a vector file:

1 On the floating toolbar, select the Import Vector Art tool.
You an Open file dialog.



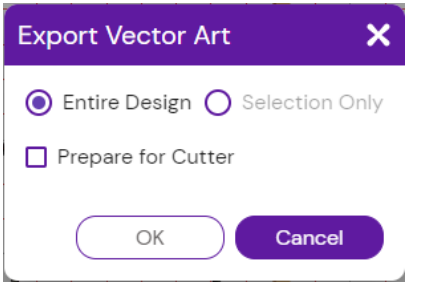
2 In the Look in list, select the folder or drive containing the artwork file you want.
3 Click on the name/icon of vector artwork file that you want to import.
4 Click Open.
The artwork design appears in the workspace. You can now select individual curves of the artwork, and convert them to embroidery, or trace them using the drawing tools.

Exporting Vector Art

The Export Vector Art tool converts your design files and save them in a single step. This tool is especially useful for creating appliques; you can select the applique placement stitches and output a vector outline to be used with a cutting machine to cut the applique fabric to the exact size and shape that the design requires.

To output a path as a vector file:

1 Select one (or more) embroidery segments.
2 On the main toolbar, select the Export Vector Art tool.
You see the Export vector art dialog.



3 On the dialog, choose one of the following options.
- Entire design.
- Selection only.

4 (Option) Check the **Prepare for Cutter** option if exporting an open segment; this option will close the segment in the final vector file.
5 Click **OK** to export the selected segment(s).
You see the Save As dialog.
6 Select the directory you want to save to, and click “Save.”.
*The selected embroidery segment (or segments) will be saved in the designated folder as an *.SVG. file.*

Note that the vector image can be opened in common artwork editing software, in case you need to edit it after generation.

CHAPTER 5

Design Editing

Embroidery Legacy Digitizing has a variety of tools that allow you to edit designs (or individual segments of designs) in the workspace. Using the Properties panel, you can modify various stitch properties such as stitch type and thread color for any segment.

Topics covered in this chapter:

- Selecting segments in various ways
- Copying and moving segments.
- Using the align and distribute tools.
- Using the Sequence view to adjust the order of segments in the design

Editing Segments

In the design window, you can edit a design's individual or grouped outline whenever you select them with the Select or Select All tools.

Selecting Segments

The Select tool allows you to select and modify individual or grouped segments (design objects). Select outline segments by clicking on them, or by clicking and dragging to draw a box around parts of the design.

The Select All tool select all segments in the design simultaneously.

Once you select a segment, you can change its properties in the properties panel. You can also resize, stretch, and rotate the segment using the handles the selection frame.

To select segments using the Select tool:

1 Press the Select tool.
2 To select a single segment, click on it.
The active segment is enclosed in a selection box with handles.
3 To select multiple segments click and drag across all the segments you want to select.
The segments are enclosed in a selection box with handles.

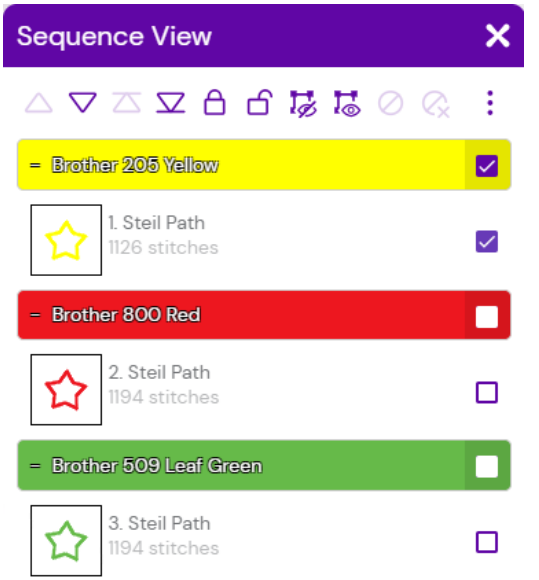
To select all segments:

- Do one of the following:
  - On the toolbar, press the icon.
  - Press Ctrl + A on the keyboard.

All segments in the design will be selected, and enclosed in a single selection frame.

To select segments from the Sequence View:

1 Click the Sequence View tool.
You see the Sequence view panel.
2 In the Sequence View, scroll to located the segment you want to select.



3 To select all the segments of a color group, click in the check box for that color
In the workspace, note that all segments within that color group are now selected.

4 To select only one segment, do the following:
   - Click the color bar at the top of the group containing the segment.
     The color group will expand to show the individual segments.
   - Click the checkbox to the right of the individual segment you want to select.
   - Repeat the above steps to select more segments, if required.

5 When all the segments you need are selected, click the "X" on the Sequence View panel to close it.

Editing Outlines

The anchor points of a path determine the position and curvature of that shape. You can use the Path Edit tool to select and modify these anchor points. You can click and drag anchors to move them, and thereby adjust the shape of a path, or you can change the type of curvature that occurs as the path.

Moving Anchor Points

You can move and drag anchor points to adjust the shape of a curve.

To move anchor points:

1 Ensure that the "Show Outlines" option has been selected in the "dots" menu.

2 Select the Path Edit tool.

3 Click on the segment to select it.
The anchor points of the selected segment will now appear, as black squares along the outline.

4 Click and drag the anchor point you want to move.

5 Release the anchor at the point you want it to be placed.
The segment will be regenerated to follow the new anchor position.

6 Repeat the above steps, if necessary, with other anchors in the segment to create the desired shape.

7 Save the design.

Changing the properties of Anchor Points

You can change the shape of path segments by adjusting the type of curvature that takes place at the anchor points of the path. After selecting the anchor using the Path Edit tool, you can select line, cusp, smooth or symmetrical.

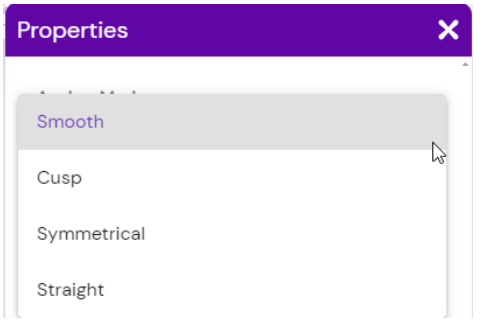
To change anchor point properties:

1 On the toolbar, select the Path Edit tool.

2 Click on anchor point you want to change.

3 On the toolbar, click the Properties icon.
You see the anchor properties dialog.

4 Click in the "Anchor Mode" field.
You see the list of anchor modes.



5 Select one of the following:
- **Smooth**. Constrains the angle of the direction lines to 180 degrees and allows you to vary the length of the direction line on one side of the anchor point. Creates a smooth transition between curved lines.
- **Cusp**. Allows editing of the direction line on one side of the anchor point. Adds a sharp bend to a curve.
- **Symmetrical**. Constrains the angle of the direction lines to 180 degrees so the direction lines have the same length on each side of the anchor point. Creates some curvature on both sides of the anchor point.
- **Straight.** Creates a straight point without any curved properties.

The segment's shape will change accordingly.

6 Repeat steps 2-5, if required, to change the properties of other anchor points.

Copying Segments

There are several methods that you can use to copy segments in designs. Once copied, the object will remain on your virtual "clipboard" until it is overwritten.

To copy to the Clipboard:

1 Select a segment (or group of segments) that you want to copy.

2 Do one of the following:
- Click the Copy tool.
- Press Ctrl+C on the keyboard.

The selected segment is copied to your clipboard.

3 To paste copied segments from the clipboard, do one of the following:
- Click the Paste tool.
- Press Ctrl+V on the keyboard

The selection is pasted at the end of the design.

To cut to the Clipboard:

1 Select one or more segments you want to cut.

2 To cut segments to the clipboard, do one of the following:
- On the File menu, click the Cut tool.
- Press Ctrl+X on the keyboard.

IThe segments are removed from their placement.

3 To paste cut segments from the clipboard, do one of the following:
- On the File menu, click the Paste tool.
- Press Ctrl+V on the keyboard.

The selection is pasted at the end of the design.

Deleting Segments

Deleting a segment removes it completely from the design. Once it is deleted, the only way to retrieve a segment is apply the Undo tool immediately after you delete it.

To delete a segment:

1 Using the Select tool, select a segment (or group of segments).

2 Do one of the following:

- On the toolbar, select the Delete tool.
- Press Delete on your keyboard.

Showing and Hiding Segments

Embroidery Legacy Digitizing allows you to show and hide segments and segments grouped by color using the Sequence View area.

This can be useful while editing. For example, to simplify the view of the design. Note that segments cannot be moved or otherwise edited while they are hidden.

You can then use the show tool to make the hidden segments visible again.

To hide segments using the sequence view:

1 In the Sequence View, select a segment, or color group.
A check mark appears to the right of the segment or group to indicate that it has been selected.

2 Click on the Hide icon at the top of the sequence view panel.
The selected segment(s) will be hidden in the workspace. In the Sequence view, a "hidden" icon appears next to each hidden segment.

If you have Ghost Mode activated, the hidden segments will still appear in the workspace, but will be "grayed out" - see the following section.

To show hidden segments:

1 In the Sequence view, click to select the hidden segments or color groups that you want to show.
A check mark appears to the right of the segment or group to indicate that it is selected.

2 Click on the Show icon at the top of the sequence view panel.
In the design workspace, all the selected segments will be visible again.

You can also show hidden segments one at a time by clicking the "hidden" icon next to each one.

Viewing Hidden Segments in Ghost Mode

The Ghost mode allows you to see segments of the design that are hidden. When you turn on Ghost mode, you will be able to see the hidden segments of the design. This allows you know where any and all "hidden" parts of a design are, but not have confusion as to which parts of the design are selected for editing.

The following is an example of a design in Ghost mode, in which the center segment is currently the selected one, and the outer segments are "ghosted":

To view segments in Ghost Mode:

1 Open an existing design file.
2 In the Sequence View pane, hide the segment (or segments) by selecting them and selecting the Hide icon.
The segment(s) that have been hidden no longer appear in the design window.

3 To enable Ghost mode,.

The segments of the design that were hidden now appear in a light grey color.

Grouping and Ungrouping Segments

You can combine several segments into a group so that the segments are treated as a single unit. You can then edit a number of segments together without affecting their individual attributes.

To group segments:

1 Using the Select or Select All tool, select the segments you want to group.

2 Press the Group tool.

You will be able to edit the selected them as a group.

To ungroup segments:

1 In the design workspace select a set of grouped segments.

2 Press the Ungroup tool.

The individual segments are no longer grouped together.

Combining Segments

You can combine two or more outline segments (of the same type) to form a single segment; this merges the original paths into a new segment.

Note that this can only be applied to segments which contain outlines – it cannot be used to join stitch segments.

To combine artwork segments:

1 Using the Select tool, select the segments you want to combine.

2 Do one of the following:

- On the Transform toolbar, click the Combine tool.
- Right-click and select Artwork Edit–Combine from the shortcut menu.

The selected segments are merged into a single segment.

Breaking up a Combined segment

The Breakup tool separates a single artwork segment into multiple artwork path segments.

To separate segments:

1 Select any set of combined artwork items.

2 Do one of the following:

- On the Transform toolbar, select the Breakup tool.

- Right-click and select Artwork Edit–Breakup from the shortcut menu.

The Combined segments will be separated again.

Aligning Segments Horizontally and Vertically

You can align lettering or segments either horizontally, vertically or to the center of the. You can use this feature to precisely align individual segments in the design.

To align segments:

1 Select the segments you want to align.

2 Select the Align tool.

You see a pop-up list of Alignment tools.

3 Click any of the following icons to chose the desired alignment:

- **Align Center Each** : Centers two or more selected segments relative to each other.
- **Align Center** : Moves the selected segments to the center point of the workspace (as defined by horizontal/ vertical ruler); all segments will retain their positions relative to each other
- **Align Left** : Moves all selected segments except the left-most item selected.
- **Align Right** : Moves all selected segments except the right-most item selected.
- **Bottom** : Moves all selected segments except the bottom-most item selected.
- **Top** : Moves all selected segments except the top-most item selected.
- **Vertical Center** : Aligns segments such that they are centered top-to-bottom with respect to each other, they will not be moved left or right.
- **Horizontal Center** : Aligns segments such that they are centered left-to-right with respect to each other, they will not be moved up or down.

4 Save the design.

Distributing segments evenly

The Distribute tools are used to arrange the selected segments so that they are spaced evenly within the design. These tools calculate the average distance (horizontal or vertical, depending on which tool you select) between all selected segments, and then move them so they are all separated by that same distance.

Note that Distribute tools do not align segments, only change their separation.

To use the Distribute tools:

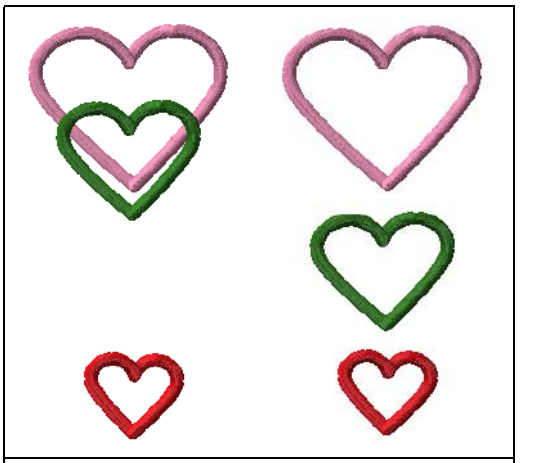
1 With the Select tool, select three or more objects in the design.

2 On the toolbar, press the Distribute icon.
You see a list of the different distribute tools available.

3 From the fly-out menu that appears, choose one of the following:

- **Distribute Left** : Spaces the objects evenly starting from the left point of each object.
- **Distribute Horizontal Center** : Spaces the objects evenly starting from the horizontal center of each object.
- **Distribute Right** : Spaces the objects evenly starting from the right pixel on each object.
- **Distribute Top** : Spaces the objects evenly starting from the top pixel on each object.
- **Distribute Center Vertically** : Spaces the objects evenly starting from the vertical center pixel of each object.
- **Distribute Bottom** :Spaces the objects evenly starting from the bottom pixel of each object.
- **Distribute Vertically** : Spaces the selected objects evenly in the vertical direction.

The positions of the selected segments will be altered accordingly.
The table below gives an example of how one of the Distribute tools works.



A sample design showing the affect ns before (left) and after (right) being distributed vertically.

Reflecting Segments

Using the “Flip Horizontal” and “Flip Vertical” tools, you can reflect (or “flip”) the selected segment across an invisible axis.

You can select two or more individual segments and flip them all at once, in order to preserve their relative positions.

To reflect segments:

1 Select the segment(s) you want to reflect.

2 On the toolbar, click the Flip tool:

3 On the fly-out menu that appears, select on of the following:

- Click the Flip Vertical tool to flip selected segment(s) vertically.
- Click the Flip Horizontal tool to flip selected segment(s) horizontally.

The orientation of the selected segments wil be changed accordingly.

Resizing a Segment

Resizing a segment enlarges or reduces it horizontally or vertically, relative to the percentage you designate. You can resize segments manually using the selection frame, or use the setting in the Transform of the e for finer control.

To resize segments manually using frame beads:

1 Select one or more segments.
The active segments are enclosed in a selection box with handles.

2 Do one of the following to resize segments:
- To resize segments by width, click and drag the beads on the left or right side of the selection frame.
- To resize segments by height, click and drag the beads on the top and bottom sides of the selection frame.
- To resize segment proportionally (i.e., equally in the both dimensions) click and drag the frame beads located at the corners of the selection frame.

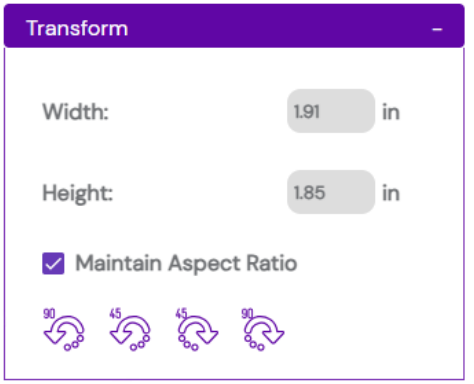
3 Save the design to preserve your changes.

To resize segments using the Transform tab:

1 Select one or more segments.

2 Click the Properties icon on the toolbar.
The properties dialog opens.

3 In the Properties dialog, click the + sign to open the Transform area (note: you may need to scroll down to see this area).
You see the Transform settings.



4 In the Width box, enter the width you want for the selected object(s).

5 In the Height box, enter the height you want for the selected object(s).

To maintain the proportions of the segment while resizing it, select "Maintain aspect ratio" if not already selected.

6 Press Enter to apply the size change.

7 Save the design to preserve your changes.

Rotating Objects

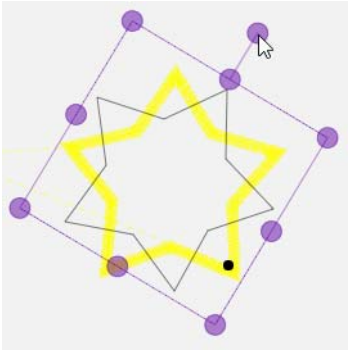
Rotating a segment turns it around a fixed point that you determine. Rotating a segment is useful if your design contains elements that are rotated to the same angle.

You will also find on the toolbar a set of "quick rotate" tools. Using these, you can quickly rotate the selected object in increments of 45º and 90º, clockwise or counter-clockwise.

To rotate segments manually:

1 Select one or more segments you want to rotate.
The active segment(s) is enclosed in a selection box with handles.

2 Move your mouse over the rotation bead, located at the top of the selection frame.
3 Click and drag the rotation bead to the left or right to adjust the segment's angle.



4 Release the mouse button when the segment is at the angle you want.
You see the orientation of the selected object change accordingly.

To rotate segments using the toolbar:

1 Select one or more segments you want to rotate.
The active segment is enclosed in a selection box with handles.
2 On the main toolbar, click any of the following:

Rotate 45 Counter-clockwise: Rotates one or more selected objects to the left in 45º increments.

Rotate 45 Clockwise: Rotates one or more selected objects to the right by 45º increments.

Rotate 90 Counter-clockwise: Rotates one or more selected objects to the left in 90º increments.

Rotate 90 Clockwise: Rotates one or more selected objects to the right in 90º increments.

Using the Color Sort Tool

The Color Sort tool enables you to rebuild a design that has the same color used more than once into a design with a minimum of color stops.

The Color Sort tool analyses the current design, looking to see if any colors are repeated. It then looks to see if any of those repeated colors can be combined into a single layer. If not, the color layers are left intact.

To use the Color Sort tool:

1 Open an existing embroidery design.
2 Select one or more segments you want the color sort feature applied to.
3 On the main toolbar, click the Color Sort toll
In the Sequence view, you will see that segments using the same thread color will now be grouped together.

Automatic Branching

Automatic Branching is a tool that can be used to reduce the number of trims and jumps in a design made up of a large number of segments of the same embroidery type. When you apply this tool ta selected segments, it creates a single, continuous "branched" segment, in which all start/end points are optimized for the closest connections. Also, if the embroidery is a type that includes underlay, the underlay will be sewn all at once before the top stitches.

To use Automatic Branching:

1 Using the Select tool, select the segments you want to branch together.

2 Press the Automatic Branching tool.

Selected segments will be branched automatically; in the Sequence view panel, you will notice that they all now appear as one item.

Note that if you apply automatic branching to segments with different thread colors, the branched segment that results will be all one color. The color will be the color of the first of the two branched segments, going by the sequence order.

If you want to unbranch a set of branched segments, simply select them and tap on the Automatic Branching tool icon again; note, however, that the original colors will not be restored by this action.

Merging Designs

You can place external embroidery designs into the current design using the "Merge" option on the Open dialog. Note that you can merge stitch files from a large number of different formats. You can then save the merged design in outline format.

To merge a design:

1 Open or create the design that you want to add the existing embroidery file to.

2 Select the Open tool.

You see an Open dialog.

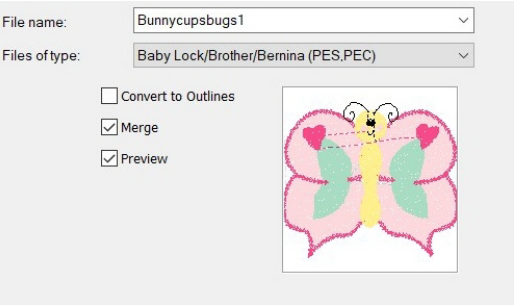
3 On this dialog, click the "Merge" check box to enable merging.

4 Browse to find the folder or disk containing the design you want to merge.

5 In the Files of type list, select a file type for the design you want to merge.

The list of designs will now be filtered to show only those of the selected file type.

6 (Optional) Check the "Preview" box to have a small image of the selected design displayed in the Open dialog.



7 (Optional) Check "Convert to Outlines." When this option is selected, the merged file's stitch segments will be converted to outlines; this will make it possible to select (and edit) segments individually. if not selected, the merged design will remain as non-editable stitch segments.

8 Click Open.

The merged file will be added to the design.

Exporting a design as an Image File

In the Embroidery Legacy Digitizing application you can export a design as an image file, in PNG format. The image can then be saved and shared as a preview of the finished design.

To export a design as an image:

1 Open a design, or create a new design.

2 Click the “dots” tool, and select Export Image from the menu that appears.
You see the Save As dialog.

3 In the dialog, browse to the directory where you want to save this file.

4 In the File Name field, enter a name for the design.

5 Click Save.
You see the Image size dialog.

6 If required, adjust the width and/or height of the image.

7 Click OK.
The image of the design will be saved to the selected directory.

Changing the Recipe

Recipes allow you to apply a group of pre-defined settings to a design, to make it sew-out better on a specific garment or fabric type. So, for example, you will want to have very different settings for baseball caps or towels.

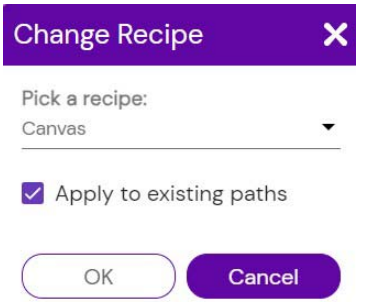
To see the descriptions for each recipe, please refer to “**Appendix A: Recipe Descriptions**” in the back of the manual:

To select a recipe and apply it to the current design:

1 Do one of the following

2 On the Main toolbar, select the Change Recipe tool.

3 Click the “options” icon and select Change Recipe from the list.
You see the Change Recipe dialog.



4 From the “Pick a Recipe” field select recipe type appropriate to your garment type.

5 By default, the “Apply to existing paths” option will be checked.
If you want to have the recipe NOT apply to the existing paths, uncheck this box.

6 Click OK.
The new settings will be applied to the design.

Stitch Select Tool

Selecting individual stitches

The Stitch tool allows you to select and modify individual stitches in designs. Once selected, you can adjust the stitch by moving its end points around using the mouse.

It is important to note, however stitch edits may be lost if you perform any action that causes the program to regenerate stitches for the segment; some examples of these would be resizing a segment., adjusting its settings, or changing the thread color.

It can be easier to locate and select individual stitches if you enable "View stitch points" in the "dots" menu.

To select stitches using the Stitch tool:

1 On the floating toolbar, select the Stitch Edit tool.

2 To select a single stitch, click the stitch you want.
Selected stitches are highlighted.

3 You can now adjust the stitch's length an/or position by clicking and dragging with the mouse.

Napdown Stitch

Napdown Stitch is a tool that can be useful when you are creating designs that are meant to be sewn onto deep loop-pile fabrics, such as terry cloth. In some case, when sewing designs on these fabrics, the design's outlines will be obscured by the loops in the material.

The Napdown Stitch tool is intended to remedy this problem, by generating a layer of cross-hatched fill stitches, sewn underneath the selected segment. These stitches serve to hold down the loops in the underlying fabric.

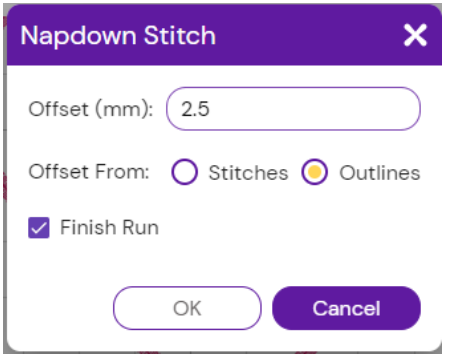
The Napdown Stitch fill will be generated so that it follows the shape of the selected design, but extends a small distance beyond its edge. You can increase of decrease this value, if needed, in the Napdown Stitch dialog.

The Napdown Stitch tool includes an option to add a run stitch to finish the cross-hatch fill; the run stitch serves to "tack down" any potential gaps along the edge of the fill.

To apply Napdown Stitch:

1 Select an outline (path) segment.

2 On the main toolbar, click the Napdown Stitch tool.
You see the Napdown Stitch dialog.



3 To change the distance the nap blocker fill extends past the edge of the selection, enter the desired value into the offset field.
4 In the **Offset from** area, select the corresponding radio button to determine how the offset distance will be calculated:
- Choose **Outline** to start the offset from the segment's outline.
- Choose **Stitches** to start the offset from the segment's outermost stitches.

5 To include a run stitch segment around the outside of the nap blocker fill, check the "Add finishing run" box.
6 Click OK.
The Napdown stitches will be added to the design. Note that these stitches are sewn before the selected segment.

7 Save the design.

Editing a Design with the Sequence View

Using the sequence view panel, you can alter the sequence (that is, sewing order) of the individual segments in designs. For example, you use these tools re-order the segments in such a way that all the embroidery of a single color occurs together.

There are also tools on the sequence view panel that allow you to hide or lock all the segments except the one you are currently editing, eliminating the possibility of making unintentional changes.

To show the Sequence View panel:

- On the main toolbar. click the Sequence View icon.
You see the Sequence view panel.

Sequence View Tools

The following bullet points present a summary of the functions available on the Sequence View panel:

- To shift the selected segment up in the sequence, click **Move up** .
- To shift the selected segment down in the sequence, click **Move down** .

  For more information about the Move up/ Move down tools, see "Changing the Sewing Sequence", below.
- To change the sequence manually, click and drag the segment up or down, and release the mouse button when it is in the desired position.
- Click the **Lock** tool to lock the selected segment (or segments) so that they cannot be edited.
- Click the **Unlock** tool to undo the lock tool on the selected segment (or segments).
- Click **Hide Selected** to hide all the selected segments so that they are temporarily hidden in the design workspace.
- Click **Show Selected** to show all selected segments.
- Select **Insert stop** to insert a stop in the sequence; the stop will be placed immediately prior to the beginning of the current segment that you have selected
- Click **Remove stop** to remove any stop added between the selected segment and an adjacent segment.
  For more information about inserting/ removing stops, see "Inserting and Deleting Stops between Segments", below.

In addition to these tools, there are four other functions that can be accessed by clicking the Option icon in the upper-right of the sequence view panel.

- **Expand all**: Expands all color-groups, so that all the segments within each group will appear.
- **Collapse all**: Collapses the segments into their respective color groups.
- **Show all**: Makes all segments visible (including any that have been hidden by applying the "Hide Selected" tool).
- **Hide Other:** Hides all the segments except those that are currently selected.

Changing the Sewing Sequence

In the Sequence View, you will find tools that allow you to change the segment order in a design. Simply select the segment by checking the box next to it, and move them using the "Move up" or "Move down" tools. Note that you can also move multiple segments at once by checking more boxes.

To change the order of a segment in the sequence:

1. Open the Sequence View panel.
2. Expand the color layer containing the segment you move.
3. Select the segment. In the toolbar at the top of the Sequence view panel, select one of the following:
   - To move the segment one position earlier in the sequence, click the Move up tool.

- To move the segment one position later in the sequence, click the Move down tool

The segment's sewing order will be changed accordingly; repeat the above steps to move the selected segment more steps forward or back.

Inserting and Deleting Stops between Segments

In the Sequence view, you can insert a stop between segments of the same thread color. When you insert a stop within a segment group, the selected segment starts a new segment group using the same thread color.

To insert stops between segments:

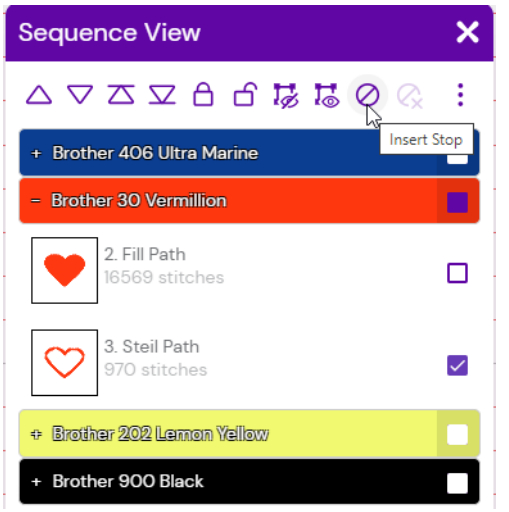
1 Click the Sequence View tool.

You see the Sequence view dialog.

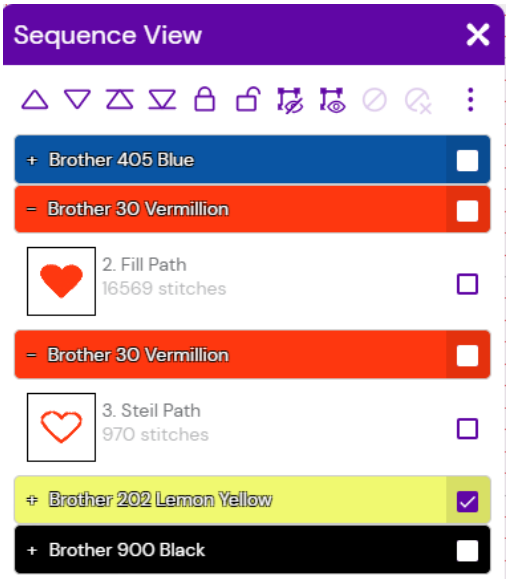
2 In the Sequence view dialog, select the segment immediately following the place where you want to place a stop.

There must be at least one segment of the same color earlier in the sewing order than this segment.

3 On the Sequence View dialog, select the Insert Stop .



In the Sequence View, you now see that there is a new "color group" containing the selected segment.



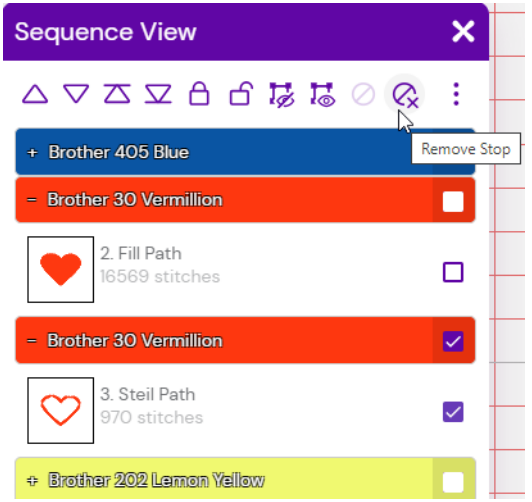
4 Save the design to preserve your changes.

To delete stops between segments:

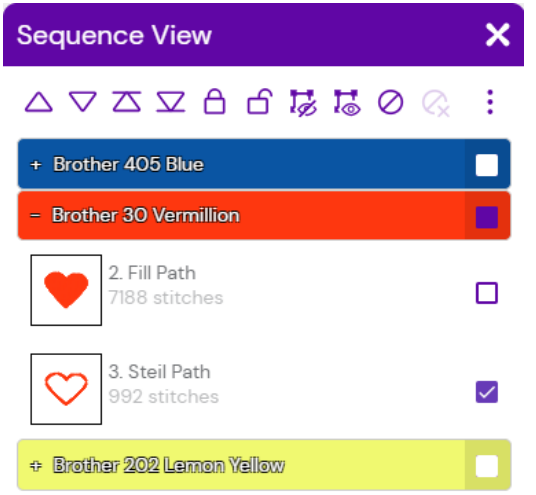
1 Click the Sequence View tool.
You see the Sequence view dialog.

2 In the Sequence View, select a segment you want to delete a stop from.

3 On the Sequence View toolbar, choose Remove Stop.



The stop is removed and the selected segment is added to its original segment group.
In the image below, notice that the selected fill segment is now part of the original segment group.



CHAPTER 6

Special Design tools

For creating unique and personalized embroidery effects, the Embroidery Legacy Software includes a number of special design tools that you can use.

Topics covered in this chapter:

- Using the Contour Tool
- Arrange objects tools: On Path, On Corner, and Scatter
- Using the Auto Digitizer Wizard
- Using the PhotoStitch Wizard
- Using the Napdown stitch tool

Introduction

In the following sections you will find descriptions for special procedures in the Embroidery Legacy Digitizing software for creating embroidery based on an artwork or (in the case of PhotoStitch) a bitmap image.

Arrange Tools

The Embroidery Legacy application includes three special design tools that quickly create multiple copies of a selected item in the workspace. These tools are the On Path, On Corner, and Scatter tools - the specifics of using them are described individually in the following sections of this book.

Note that the tools are accessed via a drop-down menu on the toolbar - to view them, click the Arrange on Path icon, or see the Arrange section of the Toolbox.

Arrange on Path

Arrange on Path is a design tool that can be applied to either embroidery or artwork items. It creates a series of repeats of the selected item along a path shape that you select.

You can us the settings in the Arrange on Path dialog to change the characteristics of the pattern you want to create.

Note the dialog will display the output size of the design you are creating in the lower right-hand corner of the dialog.

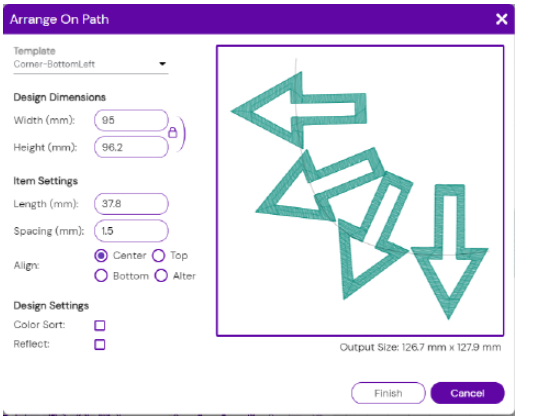
When you adjust settings, press “Enter” to apply the changes. This will update the Path preview to reflect the changes you have made.

Creating a pattern with the Arrange on Path Tool:

1 Select a design element in the design workspace.

2 On the toolbar, select the Arrange on Path tool.

The Arrange on Path dialog box appears.



3 Select a Path shape by clicking in the **Template** field of the dialog and choosing the path you want from the drop-down list.
A preview of the design on the selected path will appear in the preview panel.

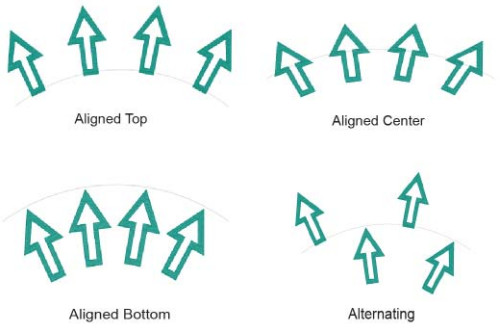
4 In the Design Dimensions area, adjust the overall pattern size by entering the desired width or height in the corresponding fields

Note that the Height and Width field are “locked” together by default; this ensures that the path will re-size proportionally. If you want to stretch the shape horizontally or vertically, click the icon to the right of the width and height files, and then change the path dimensions.

5 In the Item settings area, adjust the size of the each repeated item in the pattern by entering a value in the Length field.

6 In the Item settings area, adjust the Spacing setting, which determines the spacing (in mm) between the items in the final design.

7 In the Align area, choose the alignment for the individual design items on the path: either Center, Top, Bottom, or Alter. These settings refer to the orientation of the units relative to the path (see illustrations).



8 **Reflect:** Check this box to reflect the individual design units across the path.

9 The **Color Sort** feature automatically re-sorts the segment order to minimize the number.

10 Click Finish to generate the final design.

Arrange on Corner

The Corners Repeat tool may be applied to either embroidery or artwork segments. It creates a four-fold copy of the selected design or artwork, with the copied sections flipped through the vertical and horizontal axes.

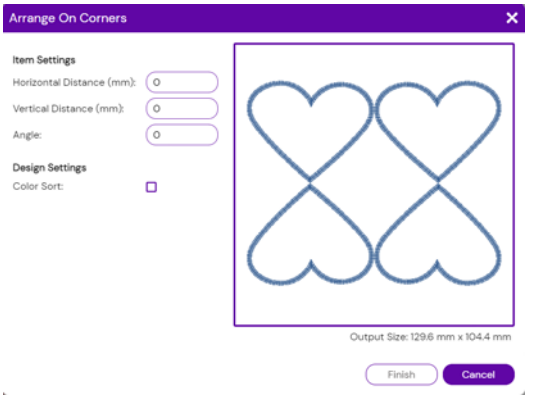
The Corners Repeat dialog includes settings that determine the vertical and horizontal separation between copies, and the angle of each.

To apply the Corners Repeat tool:

1 Select an embroidery or artwork segment.

2 On the toolbar, click the Arrange on Corners tool,

A dialog opens in front of the workspace; the selected segment is displayed in the Preview window.



3 To adjust the appearance of the repeated design, adjust any of the following:

- In the Horizontal distance field, input a value for the amount of horizontal separation required.
- In the Vertical distance field, input a value for the amount of vertical separation required.
- In the angle field, enter the angle of displacement from the horizontal.

4 To preview how the above settings will affect the appearance of the final design (before generating the stitches) click the Apply button.

Notice that the size of the original pattern and the size the final design will be are shown in the dialog immediately beneath the Preview pane.

5 (Optional) To resequence the design so that colors are placed consecutively, check the “Auto resequence by color” box.

6 When all adjustments have been completed, click OK.
The dialog will close, and the completed design will appear in the workspace.

Scatter tool

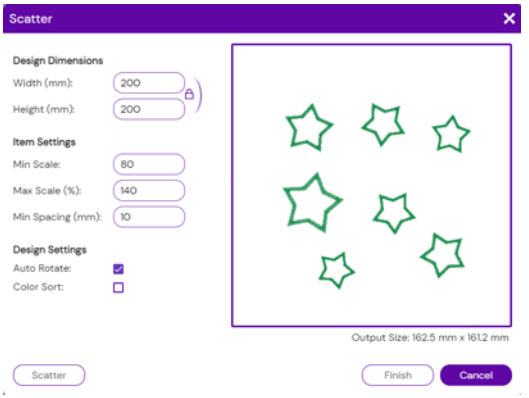
The Scatter feature uses a selected design element and scatters copies of it randomly in the design workspace. You can create your Fling pattern by applying it to the whole design, or just one element of the design.

The Fling dialog displays the output size of the design you are creating in the lower right-hand corner of the dialog. These dimensions (width × height) will be updated when you adjust any settings in the dialog that affect the design’s size.

To use the Scatter tool:

1 Select a design, or some part of a design.

2 On the Arrangement toolbar, select the Scatter tool.
The Scatter dialog opens.



3 In the Template Size area of this dialog, enter the size of the area you want to cover in the height and width fields.

4 In the Design Properties area, make any of the following modifications:

- Change the minimum and/or maximum scale of the individual design elements that will be used to fill the area (the Scatter tool will make some instances smaller or larger to best fill the space). The maximum and minimum sizes are expressed as a percentage of the original size of the element.
- Adjust the minimum (closest) spacing between the design elements.
- **Auto Rotate** (on by default): When set, allows the tool to rotate the design elements randomly within the Fling. Uncheck this box to force the designs to all be placed with the same orientation.

Auto rotate option on Auto rotate option off

- To resequence the overall design so that colors are placed consecutively, check **Auto resequence by color**.

You can repeat steps 2-4 until you get the look that you want, before generating the segments.

Clicking the **Scatter** button will redo the randomization of the design.So, if you are not satisfied with the particular arrangement of the objects at first, you can use this button repeatedly again until you get a better arrangement.

5 Click Finish.
The Scatter design will appear in the workspace.

Auto Digitize Wizard

You can create embroidery from imported images in a few simple steps using the Auto Digitize Wizard. This tool uses a step-by-step procedure to convert bitmap images to embroidery objects; simply choose an image and follow the instructions as they come up.

You can use images with shading because by the Auto Digitize ignores closely related colors when cleaning the image during color matching (see step 3).

Step1: Open the Image file

1 On the toolbar, select the Auto Digitize icon.
You see the Auto Digitize Wizard dialog.

2 Click Select Image to choose the image you want to digitize.
You see an Open dialog window.

3 Browse to locate the image, and click Open.
The image appears in the Auto Digitize Wizard preview pane.

4 (Optional) You can remove the excess background around the edges of an image by selecting the "Select without background" button. To replace the background, click the "Select all" button

5 Use any of the following buttons to re-orient the image, if desired.:
- Rotate 90º Clockwise.
- Rotate 90º Counterclockwise.
- Flip horizontally.
- Flip vertically.

6 To crop the image manually, click and drag the "black squares" at the corners of the image selection and drag them to resize it.

7 To set the crop size in mm, enter the width or height in the corresponding box of the dialog.

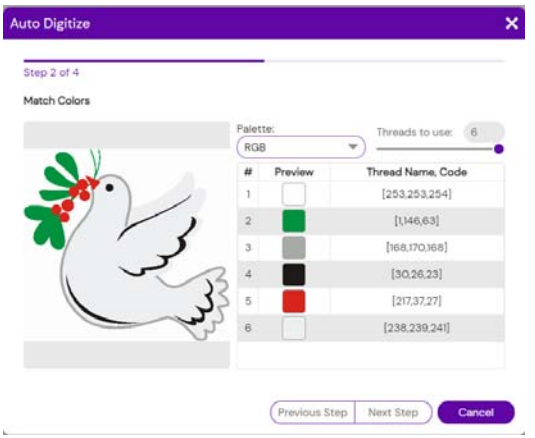
To reset the selection after performing any of the preceding steps, click the Select All button.

8 At this point, you can decide how of the selected image will be outlined. You can either have it trace the outer limits of the image only, or trace all outlines in the image, including the internal ones.
To do this, select the corresponding “radio button.”
- Trace All.
- Trace Outer Shape Only.

9 Click **Next.Step** to proceed.
You see the Match Colors page.

Step 2: Match Colors

In the Match Colors dialog, the original colors of the image will be shown in the column on the right, in RGB values. There is a “Palette” drop-down list, from which you can select the thread palette you want to use. The wizard will then match these RGB colors to the closest thread color in the palette you chose.



1 From the “Palette” drop-down list, select the thread palette you want to use for the embroidery from at the top of the dialog.
Notice that the colors in the design preview image on the left side of the dialog with change according to the palette you select.

2 Drag the “Threads to use” slider to select the number of threads that will be used in the final design; drag left for fewer colors, and right to use more colors.

3 When the design has an appropriate number of thread colors, click **Next Step**.
You see the Automatic Segments window.

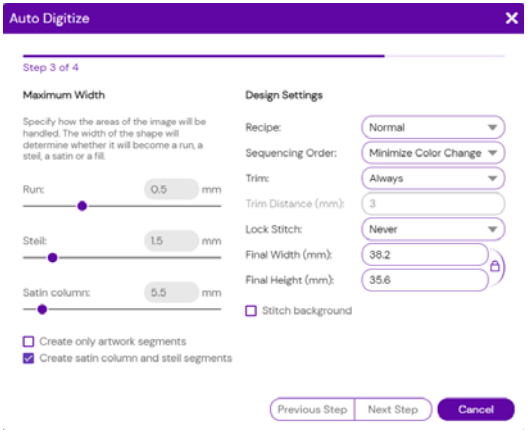
Step 5: Setting the Automatic Segment widths

The Auto Digitize will automatically select which stitch types to apply, depending on the width of the color areas in the image to be digitized.

Effectively, what happens is that long, narrow parts of the image will be digitized as either Run, Steil, or Satin segments, and anything larger than a certain width will be digitized as a Complex Fill. Which segment types is used for the narrow parts of the image will depend on the width of the color area that is being digitized. By default, segments will be digitized as follows:

Width (in the image)	Segment type applied
0.1–0.5 mm	**Run Stitch**
0.6–1.5 mm	**Steil Stitch**
1.6–5.5 mm	**Satin Column**
5.6 points or wider	**Complex fill**

However, you are able to override these values for each type of stitch, using the controls on the Automatic Segments page.



Note that the optional "Create satin column and steil segments" box is checked by default. When enabled, this option means that Run, Steil, Satin and/or Complex Fill embroidery will be used, depending on the width values you set using the "Max. width" sliders on the page, However if you de-select this option, the resulting design will consist only of Run stitches and Complex fill segments and the "Max width" sliders for Steil and Satin will be disabled in

You can, alternatively, choose to generate Artwork at this point, rather than stitches. To do this, check "Create Artwork Segments", and press the "Finish" button. This will bypass the stitch-generation process, and immediately produce a file consisting entirely of outline Artwork segments (but with the colors preserved).
(This function was previously performed by a different Wizard, Image Vectorizer).

To apply Width and Design Settings:

1 Drag the sliders for each of the embroidery types to determine the maximum width that each stitch type will apply to.

The chosen width will be displayed in the small boxes above each slider; to return each to its default value, click the Default button.

2 Select the recipe (style) to match the fabric or garment type that the design is going to be applied to.

3 In the Sequence Order area, select one of the following to adjust the sewing sequence:

- Minimize jump.
- Minimize color change.
- Smart.

Smart sequencing is a option that preferentially moves narrow border stitches later in the sewing sequence, so that the sew on top of large complex fill areas, rather than the other way around.

4 In the trims area, select any of the following trim settings:

- Never.
- Always.
- Trim at. The system will place a trim if the distance between stitches is longer than the distance displayed in the Trim At box.

5 In the Lock Type area, select any of the following lock stitch settings:

- Never.
- Always.
- Around Trim.

6 **Final Width** and **Final Height:** To set the final dimensions for the resulting design, enter the desired width and height of the

design into the corresponding fields on the dialog. (Note that, by default, the width and height will be “locked” that is, the design will resize proportionally. If you want to change either width or height, unproportionally, tap the “lock” icon to turn off the proportionality lock).

7 To generate stitches in the background, check the “Stitch Background” checkbox

8 Click Next Step.
You see the Segments Window.

Step 4: Segments View

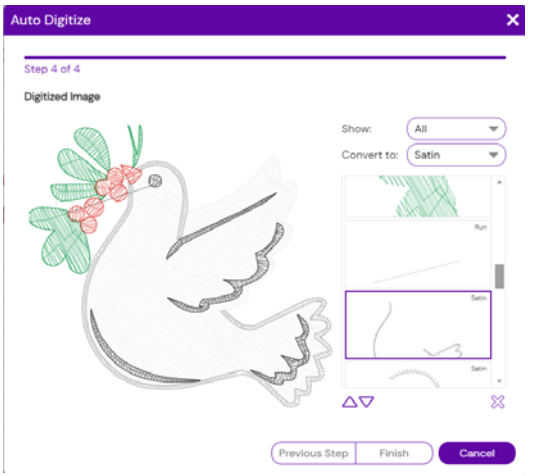
In the final step, you will see a complete list of the segments in the design. On this page, you can change the sewing order of segments and select individual embroidery segments and convert them from on type to another

To edit individual segments in the segment view:

(Optional) In the “Show” field, select the segment type that you want to appear in the list.

1 Click and drag the scroll the scroll bar to locate the segment you want to move or modify.

2 To change a segment’s place in the sewing order, select the segment by clicking on it. Click the “up” or “down” button to move it earlier or later in the sewing order.



3 To change the sewing order of any individual segment, do the following:
- Select the segment
- Click on the “Move up” button to move it earlier in the sewing sequence
- Click the “Move down” button to put it later in the sewing sequence.
You see the segment move accordingly.

4 To show the segments belonging only to a certain type, click the down-arrow next to “Show all segments” and choose one of the following:
- Show only run segments.
- Show only steil segments.
- Show only satin segments.
- Show only complex fill segments.
- Show only star segments.
You see that only the stitch segments of the selected type are shown in the sequence view.

5 To change the stitch type of any segment:
- Select the segment.
- In the Segment Type area, click the radio button corresponding to the stitch

type you want to convert the segment to: Run, Steil, Satin, Complex Fill, or Star.

6 To delete a digitized segment:
- Select the segment.
- Click the Delete button.

Once you have deleted a segment, the only way to get it back is by using the back button to return to the Judgement page, and then hitting Next again to return to the Segments page.

7 Click Finish to generate the design and view the design file in the design workspace.

PhotoStitch Wizard

The PhotoStitch is a quick way to make an embroidery design from a photo or other raster image. Simply select an image from your files, enter some parameters into the Wizard dialog, and the Wizard will output it in embroidery.

To use the PhotoStitch wizard:

1 On the floating toolbar, select PhotoStitch Wizard icon.

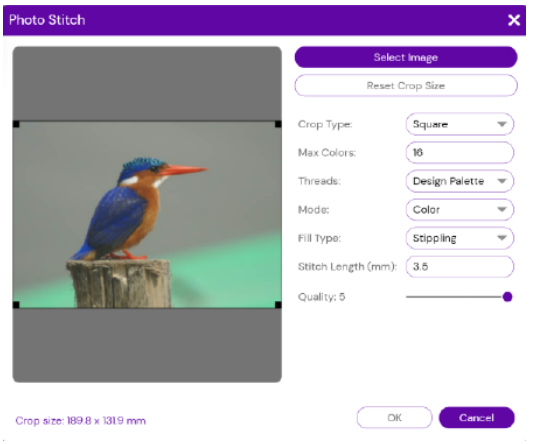
You see the PhotoStitch Wizard dialog.

2 Click Select Image.

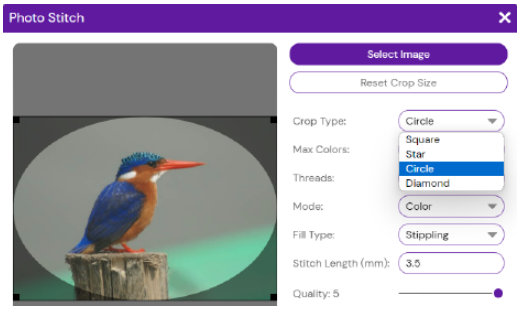
You see the Open browse window.

3 Browse to locate the image you want to process and click Open.

You see a preview of the image in the Wizard window.



4 **Cropping the image**; You can use the selection frame in the preview window to crop the image prior to generating the stitches. To crop the image, do the following:
- Select a crop shape from the **Crop Type** drop-down list. The selected shape (square, star, circle diamond, etc.) will determine the overall shape of the finished stitch design.
- Adjust the crop size manually by clicking and dragging the handles of the crop frame in the image preview window.



5 In the **Max Colors** field, choose the number of thread colors that will be used to render the design.

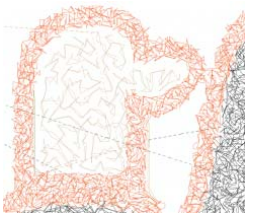
6 In the **Threads** field, select the palette that you want to apply when the image is digitized.

By default, the Photo-stitch wizard will use the current design palette, however, you can change this to use any of the many available thread charts that are installed with Embroidery Legacy software.

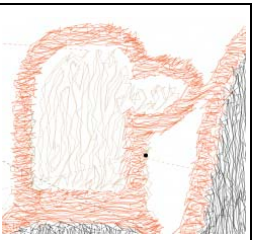
7 **Mode**: This property to apply an overall color effect to the design: select either Color, Gray, CMYK, Sepia, Edge or Mono

8 **Fill Type**. This option sets the stitch type that will be used to turn the image into stitches. From the list, select one of the following:

- Stipple.
- Hatch.



Stipple fill



Hatch fill

9 **Stitch Length**: Determines the (average) length of the fill stitches; the default value is 3.5 mm.

10 Adjust the **Quality** setting; the higher the quality setting, the more fill stitches will be generated and the denser the fill. This can give you stronger colors and sharper resolution in the finished product.

11 Click OK to apply the settings choices and generate the stitches.
The Photo Stitch Design appears in the main design window.

APPENDIX A

Recipe Specifications

In this document, you will find a description of the individual garment recipes that can be applied to your projects. You can apply a new Recipe to a design by selecting the “New Recipe” button on the main toolbar.

Recipe Information

The following table lists the characteristics of each of the recipes available in Embroidery Legacy Digitizing software.

Recipe	Description	Fabric Thickness	Fabric Stretch
Canvas	Canvas is a very stable fabric and is easy to embroider. Canvas, because it is usually thick can be difficult to hoop. Alternate hooping techniques and magnetic hoops aid in achieving better stitch results.	Heavy	Very little
Cap	This recipe will adjust for density and underlay properties. However, finished cap digitizing techniques following the bottom-up/center-out rules must still be manually adapted.	Light to heavy	None to light
Dog Collar	Dog collars are generally flexible but thick. Because of this they cannot be hooped to be stabilized extremely well for machine embroidery. Hooping a sticky stabilizer or using magnetic hoops is best to keep the collar from shifting during embroidery	Heavy	None
Fake Fur	It is usually recommended that any fur type fabric not be hooped. Hooping a self-adhesive stabilizer is the most common way to adhere the fabric, keeping it flat for embroidery. To embroider on any fur a topping of water-soluble topper is used to keep the pile from showing through the embroidery. Magnetic hoops eliminate damaging these types of materials.	Heavy	None to light
Fleece	Fleece is a soft-pile fabric and comes in a variety of thicknesses. To embroider on these a topping of water-soluble topper is used to keep the pile from showing through the embroidery. If extremely thick consider alternate hooping techniques and magnetic hoops aid in achieving better stitch results.	Will vary from light to heavy	Will vary according to fabric
Jeans	Denim fabric comes in many weights. Depending on the thickness of the denim the stabilizer type will vary. If the design is more stitch intensive a heavier stabilizer may also be useful. Jeans can be problematic for hooping. Tubular Hooping Stations and Magnetic Hoops will aid in hooping these types of hard to get at items.	Medium to Heavy	Light to a lot of stretch (check for Lycra content)

Recipe	Description	Fabric Thickness	Fabric Stretch
Leather	Embroidery Designs for leather should be carefully chosen. Open designs with no underlay and low stitch counts will provide the best results. Because it is very likely that hooping leather will leave marks it is advisable to hoop the stabilizer and then adhere the leather on top. Magnetic Hoops are big asset for embroidering on leather.	Medium to Heavy	Light to a lot
Lycra	The stretch of Lycra fabrics can vary from a little to a lot. To keep stretching to a minimum, designs with lower stitch counts work best. If the embroidery design is more detailed the fabric could begin to pucker or ripple. To minimize stretching the fabric, fusible interfacing and fusible no-show mesh stabilizers will reduce movement within the fabric.	Medium	A lot
Pique	Pique is a patterned knit that can easily be embroidered. To minimize stretching the fabric either no-show mesh, or fusible no-show mesh stabilizers will reduce movement within the fabric and not leave a "stabilizer shadow" around the embroidery. A water-soluble topping will help reduce the stitches from sinking into knitted fabrics.	Light to medium	Light
Pullovers	Wool-blend pullovers may vary in their fabric type and thickness. Some pullover fabrics can be easily hooped while others may require alternate techniques or magnetic hoops for best embroidered results. A water-soluble topper is suggested to prevent the stitches from sinking into the fabric. Check washing instructions with these types of items to ensure good results after the item is laundered.	Light to heavy	Light
Satin	Satin fabrics tend to be slippery and are not washable. Check the thread to be sure it can be dry cleaned before attempting to embroider on a special project that will need to be cleaned after use. Satin also marks easily leaving hoop-burn, adapting alternate hooping techniques and magnetic hoops aid in achieving better stitch results.	Light	None to light
Shirt Cuffs	Shirt Cuffs come in all sizes and can be a challenge to embroider on a home embroidery machine. Cuffs cannot be hooped so hoop an adhesive stabilizer and adhere the cuff in place. A Basting stitch will also help to keep it from shifting or popping off during embroidery. A hoop grid will help with alignment of the cuff on the stabilizer. Tubular hooping stations and Magnetic hoops when available will also assist with these difficult items.	Medium	None

Recipe	Description	Fabric Thickness	Fabric Stretch
Silk	Silk comes in all weights and thickness but also varies in many ways. Check the characteristics of the silk fabric before embroidering. For silks that are dry clean only use a thread that can be dry cleaned as well and avoid using water-soluble stabilizers. If the silk is a loose-weave type or is extremely heavy, a topper may be needed to keep the stitches from sinking into the fabric. For very lightweight silks consider open-style embroidery with lower stitch counts and always test sew your design before embroidering.	Light to medium	None to light
Soft-Pile	Soft-Pile are items most often made of flannel, knit, fleece. To embroider smaller detail on these items we suggest a water-soluble topping is used to keep the pile from showing through the embroidery. If extremely thick consider alternate hooping techniques or magnetic hoops.	Will vary from light to heavy	Will vary according to fabric
Sweatshirts	Sweatshirt fabric is stretchy, usually heavy and difficult to hoop. Cut-Away stabilizers assist with reducing stretch and distortion of designs. Tubular hooping stations and Magnetic hoops when available will also assist with these difficult items. A water-soluble topper may be needed on top to keep the stitches from sinking into the fabric.	Medium to Heavy	Light to Much
T-Shirt	T-Shirt knits can be a variety of fabric blends and range from thin to heavy. T-Shirt knits should be stabilized on the top and bottom for best results. Stabilizing requirements may vary depending on the density of the embroidery design.	Light to heavy	Light to lots of stretch
Thick Denim	Canvas, denim, twill, duck cloth, and many types of 'pack cloths" fit into this category. These are generally easy to embroider and don't require heavy stabilizers, as the fabric itself provides stability. Magnetic hoops make hooping very easy for standard denim and stretch-denim milled with Lycra.	Heavy	None to light
Towels	Towels vary in weight but are generally thick and difficult to hoop. Some sticky stabilizers can pull the terry looping when removed so using a spray adhesive is suggested. To embroider on these a topping of water-soluble stabilizer is used to keep the pile from showing through the embroidery. Using alternative hooping techniques or magnetic hoops with a tear-away/rinse-away stabilizer provides best results.	Heavy	None

Recipe	Description	Fabric Thickness	Fabric Stretch
Velvet	Velvet has nap and can vary in the amount of stretch. Some are washable and some are not. Because hooping can leave permanent marks on the fabric it is best to use alternate hooping techniques or magnetic hoops. Testing and laundering is suggested to ensure best results.	Medium to heavy	Light to lots of stretch
Vinyl	Embroidery designs for vinyl should be carefully chosen. Open designs with no underlay and low stitch counts will provide the best results. Because it is very likely that hooping vinyl will leave marks it is advisable to hoop the stabilizer and then adhere the vinyl on top. Alternate hooping techniques or magnetic hoops aid in embroidering on this medium.	Medium to Heavy	Light to a lot
Woven/ Cottons	Woven fabrics include several different types such as cotton, cotton calico and cotton polyester blend and are easily embroidered. A variety of stabilizers can be used with good results but some may give the best results using a no-show mesh cut-away as these fabrics are generally thinner in nature.	Light to Medium	None to light

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