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USER GUIDE

MULTI-HOOPING

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MULTI-HOOPING

If your embroidery is too large or contains a number of designs spaced around an article, you can use the Multi-Hooping toolbox to split it into multiple hoopings. Each one contains an object or group of objects that can be stitched out in a single hooping. These can be stitched consecutively to form the whole design. They can be sent directly to machine or saved to file.

CREATE MULTI-HOOP DESIGNS

The software provides a multi-hoop function which allows you to create multiple hoop positions. This means you can stitch out embroidery designs that are larger than can be accommodated within a single hoop. The aim is to add hoops and move them around until you get the least number of hoopings necessary to accommodate the entire design. These are then stitched out consecutively. Since a given stitchout can use only one size of hoop, you need to choose a hoop that will cover the largest object in the design.

> Knowing the design object sequence helps you place hoops in the best hooping sequence. A good technique is to use the Resequence docker in object mode. As you select objects from the list, they are highlighted in the design. Another useful tool for this purpose is Stitch Player.

Select a hoop

> Click View > Show Hoop to show or hide hoop. Right-click for settings.

First choose the hoop you want to use. Right-click the icon to access settings and choose a hoop. Since a given stitchout can use only one size of hoop, you need to choose a hoop that will cover the largest object in the design, if not the entire design.
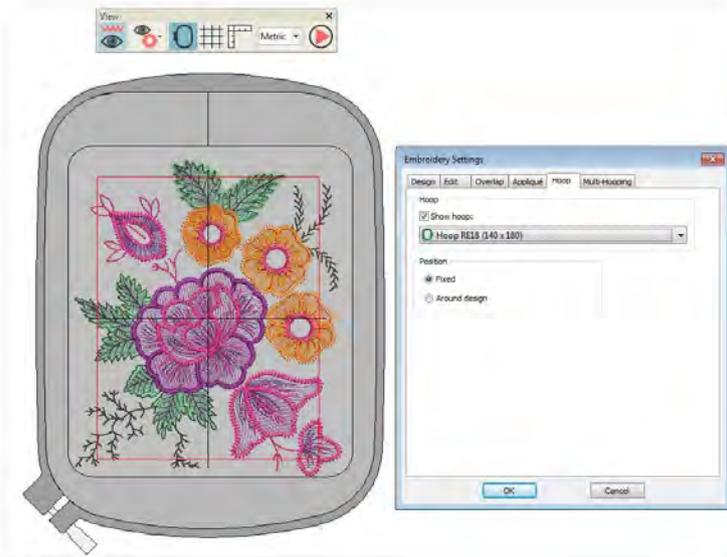
Position the hoop

When you enter multi-hooping mode, covered objects – those that fit wholly within a hoop – display as green stitches. Uncovered objects – those that do not fit – display as black stitches. Select a hoop outline, and drag it till it covers the largest object in the design.
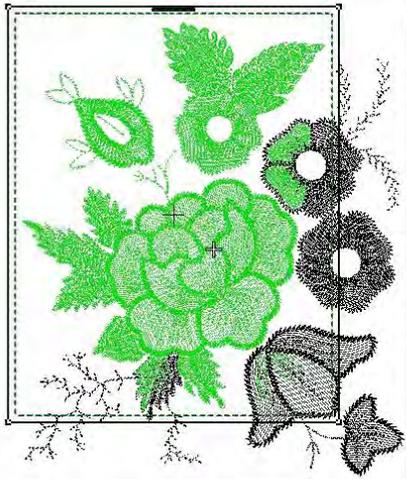
Add more hoop positions

	Use Multi-Hooping > Add Hoop to add a new hoop position to a multi-hooping layout.
	Use Multi-Hooping > Add Hoop Right to place a new hoop position to right of selected hoop. Allow 10mm overlap between sewing fields.
	Use Multi-Hooping > Add Hoop Up to place a new hoop position above selected hoop. Allows 10mm overlap between sewing fields.
	Use Multi-Hooping > Add 4 Hoops Around to create four hoop positions around a selected hoop's perimeter. Allows a 10mm overlap between sewing fields.
	Use Multi-Hooping > Add 8 Hoops Around to create eight hoop positions around a selected hoop's perimeter. Allows a 10mm overlap between sewing fields.

Use the Add Hoop tools to add more hoop positions. As soon as a hoop is moved or joined by others, automatic centering is deactivated, meaning that the hoop no longer centers itself automatically around objects in the design.
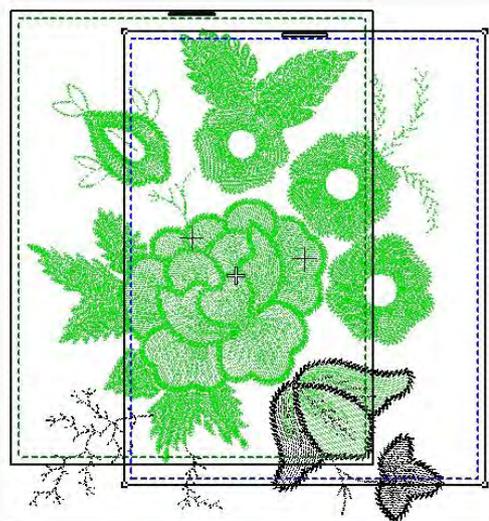
The Add Four Adjacent Hoops and Add Eight Hoops Around commands become available when a single hoop is selected in the design window. Clicking the associated icon causes four or eight hoopings to be added around hoop's perimeter, starting from the top and continuing in a clockwise direction, with a 10mm overlap between sewing fields.

Adjust hoop positions

Use Context > Rotate Hoop Left 90° to rotate selected hoop in 90° increments to the left.

Use Context > Rotate Hoop Right 90° to rotate selected hoop in 90° increments to the right.

Use Multi-Hooping > Delete Hoop to remove a selected hoop from multi-hoop layout.

Re-position additional hoops and, if necessary, rotate them so that they completely cover all objects in the design. Nudge selected hoops into position using the arrow keys. To rotate a hoop, click twice to activate rotation handles. Drag a rotation handle to rotate the hoop. You can also use the Rotate Hoop buttons on the Context toolbar to rotate hoops in 90° increments. Use the Delete Hoop button to remove any unwanted hoopings.
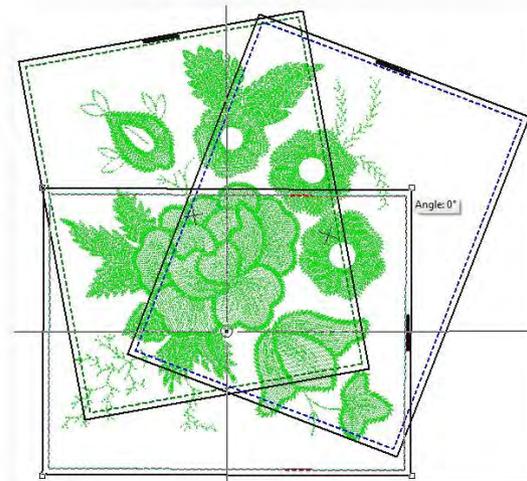
While a design may be entirely covered by separate hoop positions, some objects may remain uncovered, as indicated by black stitching. The Splitting Guide tool allows you to split objects that would not otherwise fit within a hooping.

Calculate hoopings

Use Multi-Hooping > Calculate Hoopings to calculate hoopings that will result from current layout.

Finally, click the Calculate Hoopings icon to evaluate the hoopings that will result from the current hoop layout. Bear in mind that a calculated 'hooping' is not necessarily the same as a 'hoop position'.

While the software always preserves the original stitching sequence, hoop placements which follow the design object sequence reduce the number of calculated hoopings. The time taken to calculate design hoopings is dependent more on the number of objects and hoop positions than stitch count. Designs converted from EXP, PES, HUS, etc, will in general result in a larger number of objects than a native embroidery designs. Hence, these designs will take longer to calculate. However, even with pure EMB files, if the design is complex, large, and contains many hoop positions, calculation can take time.

The file is split into at least as many files as there are hoopings, depending on whether you have split some objects between hoopings. You are now ready to save the design to one or more files or send it to machine.

> Print a copy of the design showing the hoop positions to help you stitch it in the correct hooping order.

MULTI-HOOPING GUIDELINES

When the software calculates multiple hoopings, it attempts to split whole objects between sequential hoopings. Where one object overlaps another, the overlapped object must be stitched first.
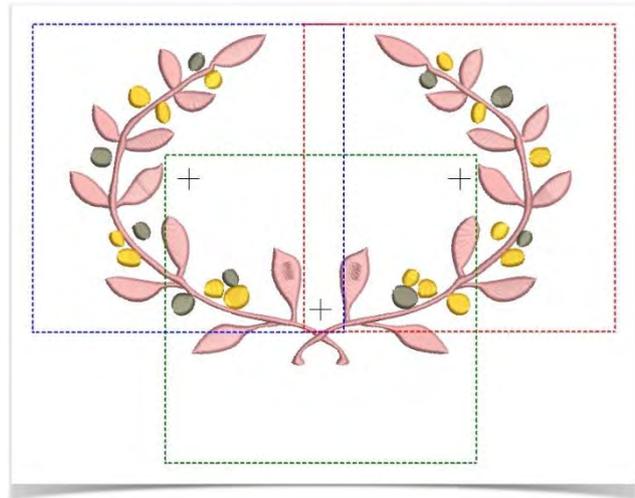
Hoop positions

Use Multi-Hooping > Add Hoop to add a new hoop position to a multi-hooping layout.

Of course it is always important to establish the stitching order so that objects in the foreground are sewn after those in the background. When a large design requires multiple hoopings, the software allows you to set up the position and sequence of each hoop. Multiple hoops are color-coded as follows, according to their position in the sequence:

Hoop	Color
1	Dark Green
2	Blue
3	Red
4	Brown
5	Orange
6	Purple
7	Teal
8	Aqua

In the unlikely event that you use more than eight hoopings, the color sequence is repeated, as long as none of the previously created hoop positions is deleted.

General rules

Try to ensure that...

- Each successive hoop position overlaps a previously stitched hoop position.
- Hoops are placed as near as possible to the order of the actual design object sequence. This will minimize the number of eventual hoopings.

- 'Hooping' is not the same thing as 'hoop position' – you can have more hoopings than hoop positions but you can never have less. In other words, a single hoop position may involve more than one hooping in order to preserve the stitching sequence.

Check design sequence

Use Edit Objects > Resequence Manually to show or hide Resequence docker. Use it to resequence objects and color blocks in a design.

Knowing the design object sequence helps you place hoops in the best possible hooping sequence. A good technique is to use the Resequence tool. As you select objects or color blocks from the list, they are highlighted in the design. This will help you understand the order in which objects are sewn, and hence the order in which they should be hooped.
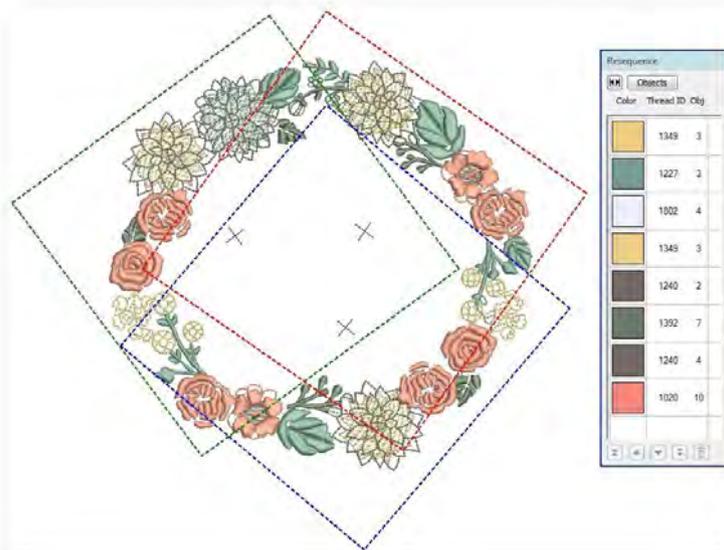
The Resequence docker cannot be used in Multi-Hooping mode, only in normal view. Thus, study the stitching sequence carefully before you attempt to multi-hoop the design.

Use View > Stitch Player to simulate embroidery design stitchout onscreen in either stitch or TrueView.

Another useful tool is Stitch Player. When you run Stitch Player, you are checking to see if the start and end point of a particular object may have a bearing on the number of hoopings. For example, if you split a large object but the first half is in the second hoop, this may result in an additional hooping. With Stitch Player, you are aiming to make sure that any split objects are split between adjacent hoops (both in terms of position and hoop placement sequence) and that the object starts stitching in the earlier hoop.

Adjust design sequence

While correct hoop placements reduce the number of calculated hoopings, sometimes the design object sequence may not be ideal for multi-hooping. You may find that the only way to reduce the number of hoopings is to re-sequence the design itself. As a general guideline, bear in mind the following...

- Stock designs which have been created for a single hoop are generally sequenced by color in order to reduce the number of color changes. This is important for single needle machines.
- Enlarging a stock design to the point where it requires multiple hoopings may require the design sequence to be changed in order to reduce the number of hoopings.
- Since a given stitchout can use only one size of hoop, choose a hoop that will cover the largest object in the design.
- Always try to place hoops as near as possible to the order of the actual design object sequence.

SPLIT OBJECTS BETWEEN HOOPINGS

Use Multi-Hooping > Splitting Guide to digitize one or more guides in a multi-hoop layout to split objects between hoop positions.

The Splitting Guide tool allows you to split objects that would not otherwise fit within a hooping. In effect, it allows you to digitize one or more split lines in a multi-hooped design prior to outputting to file, machine or memory card. Splitting becomes necessary when, although a design is fully hooped, objects which are unable to fit within a single hooping still appear in black.
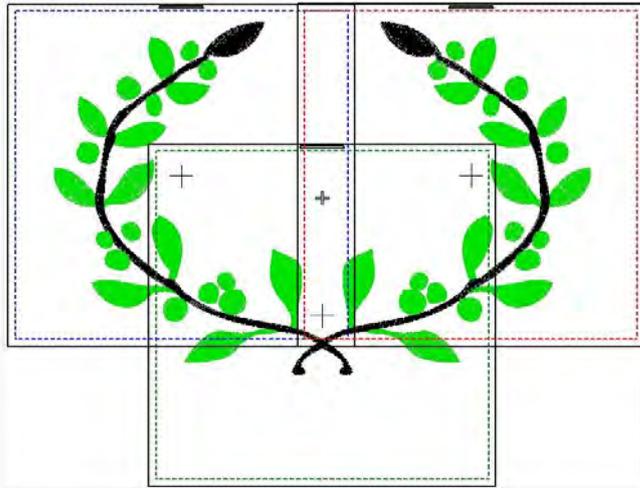
Digitize split lines in the normal way, using right-clicks for curves and left-clicks for corner points. As long as splits occur within the sewing field of overlapping hoopings, the resultant 'split objects' are displayed in green. Objects will not be split in the design file but they will be split on output. The split will not necessarily be along the digitized line. Instead, it will be made as inconspicuous as possible. The resulting objects will preserve their original object type, stitch angle, parameters and color.
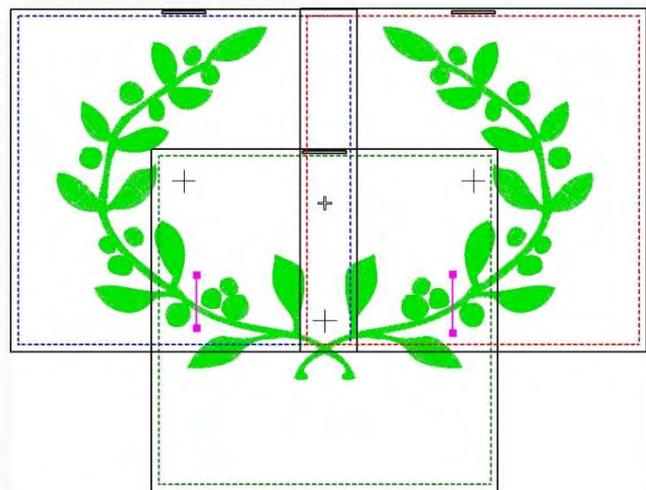
Although split lines are only visible in multi-hoop mode, they are maintained when switching to other modes. Split lines do not affect object integrity and you can still reshape and transform split objects as before.

PRINT MULTI-HOOPED DESIGNS

> Use Output Design / Standard > Print Preview to preview design worksheet. Print from preview window.
>
> Use Output Design / Standard > Print Design to print the current design.

If there is more than one hooping in the design, you have the option of printing hoops in multi-hooping view in their correct color sequence. The Hooping Sequence option shows the objects in each hooping.

- Select File > Print Preview.
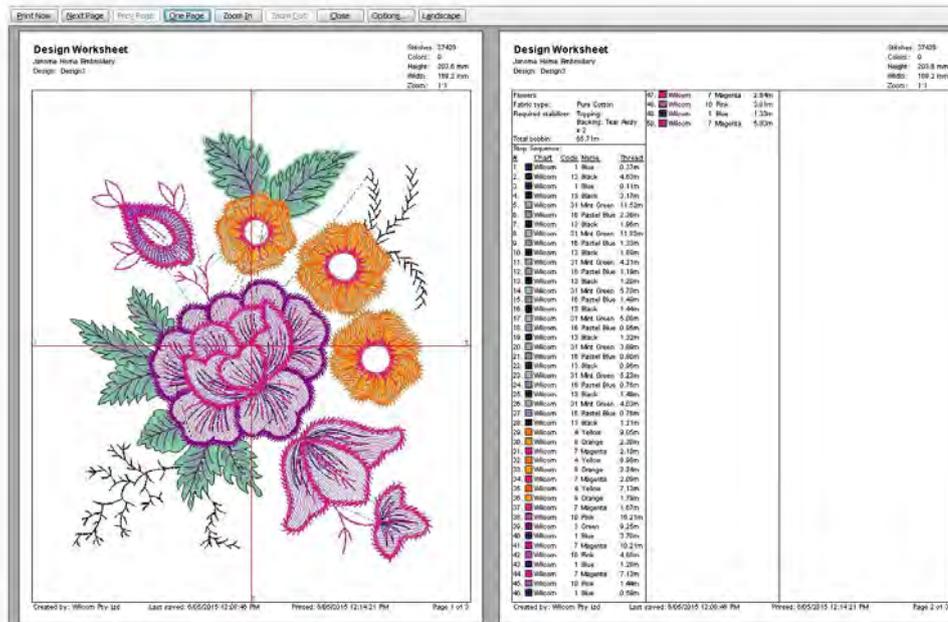
-
- Click Options icon.
- Select the Hooping Sequence checkbox.
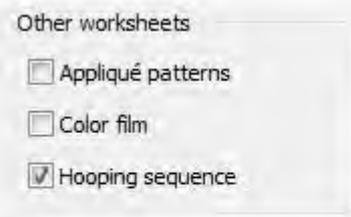
- It is a good idea also to include alignment marks with multi-hooped designs. These can be activated via the Multi-Hooping tab which you can access via Software Settings > Embroidery Settings.
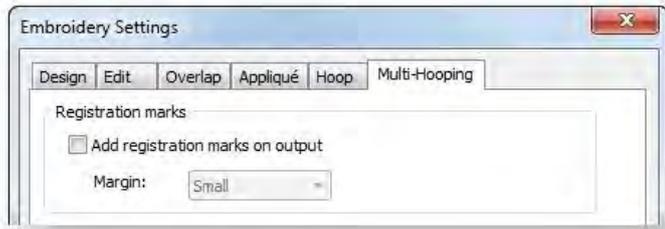
- The following information is included showing the objects in each hooping.
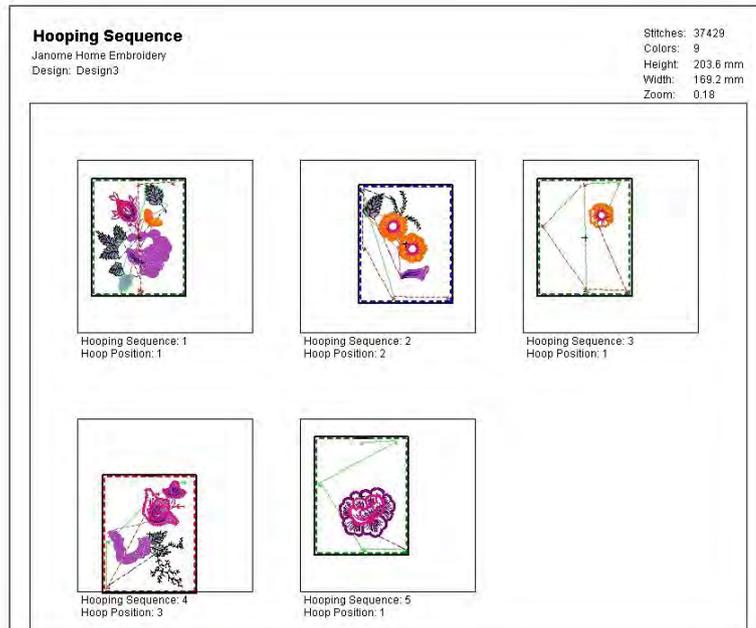
OUTPUT MULTI-HOOPED DESIGNS

When working with designs that are larger than the available physical hoop, the software will split them into parts, each containing an object or group of objects. When a multi-hooped design is output, each part is stitched separately after the fabric has been re-hooped. When saving to stitch file or sending to machine, multi-hoopings and split lines are applied. Hooping Sequence mode is activated, showing the separate hoopings.

Hoopings vs output files

It is important to realize the numbers of hoopings in a multi-hooped design do not necessarily correspond to the number of output files. It all depends on the layering of objects within the design. In order to preserve the digitized stitching sequence, the same hooping may need to be visited more than once. Take the simple scenario illustrated here. Here we have one design with three objects and two hoopings. Object #1 gets stitched first. But then a change of hooping is required to stitch Object #2. To stitch Object #3, we need to return to our first hooping. That's how we come to have more output files than we have hoopings.
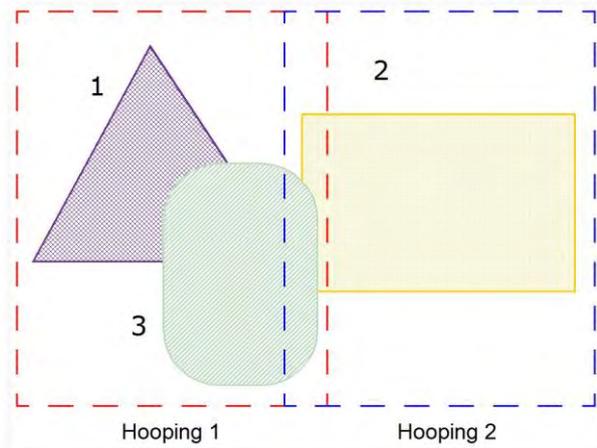
Add registration marks

> Click View > Show Hoop to show or hide hoop. Right-click for settings.

In order to help you correctly align multiple hoopings during stitchout, the software can stitch out registration marks for each hooping. These do not form part of the design and are not saved with the design file. However, they are added during output and are viewable in the production worksheet hooping sequence.

- To set registration marks, right-click the Show Hoop icon and choose the Multi-Hooping tab.
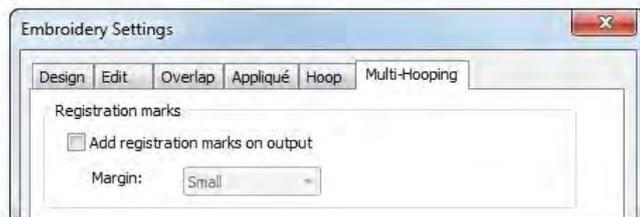
- Choose 'Add registration marks' and set a margin. The larger the margin, the greater the distance between the registration mark and the maximum embroidery area of the hoop. This makes it easier to align but there may be some trade-off in the precision of your registration.
- To check that registration marks have been added, activate the hooping list in Print Preview.

Correct alignment of multi-hooped designs requires some practice. Third-party training programs are available on the internet which demonstrate correct technique. Most recommend using a sticky-back tear-away stabilizer, heavy enough so that the registration marks do not tear the stabilizer. Use pins through the registration marks of one hooping to align the corresponding marks of the next hooping

Save multi-hooped design as a design file

Use Output Design > Save Design As to save the current design with a different name, location or format.

To save a multi-hooped design as a design file, simply click the Save Design As icon. A standard MS Windows® Save As dialog appears allowing you to browse to any folder. You will be prompted to save the design as a single EMB file or separate files for each hooping. Generally, you will only need a single design file. All hoopings are preserved in the one file.

Save multi-hooped design as machine files

Use Output Design > Export Design to convert current design to a format other than your selected machine.

When you want to output multi-hooped designs as machine files, you have a choice of using the Export Design function or writing designs to machine card or USB. In either case, you are prompted to split the design into separate files for each hooping. To save a multi-hooped design...

1. Create or open your multi-hooped design.

2. Click the Export Design icon. A standard MS Windows® dialog appears allowing you to browse to any folder.
   Alternatively, use the Write to Card/USB command to output files to memory card.

3. Change the file name as required, and choose a destination folder and/or file format.
   The system checks that all embroidery objects are covered. You will be warned if they are not.

Otherwise, all hoopings needed to stitch the design are calculated and displayed in the Hooping Sequence dialog. Hoopings are named as files with the chosen file extension. Any split lines which may have been applied are calculated on output and objects split between their respective hoopings.
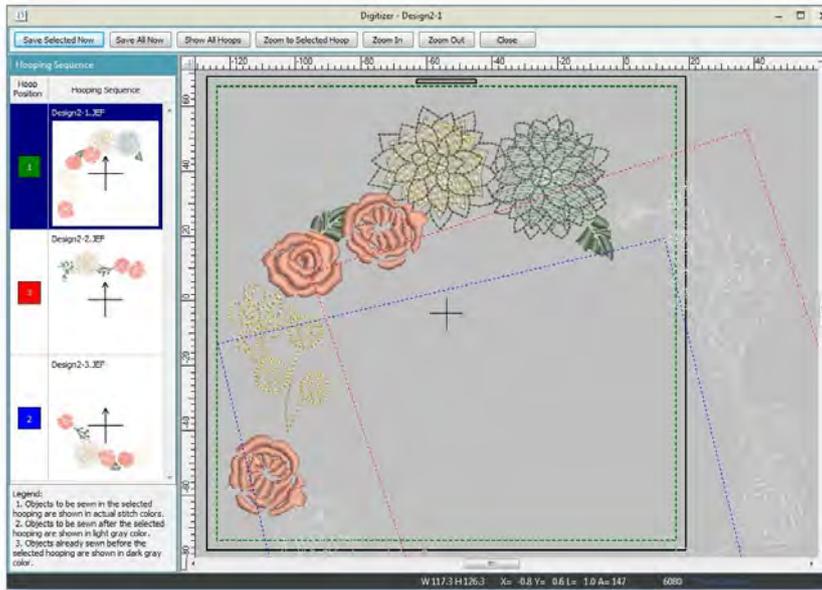
4. Select a hooping and click Save Selected Now.
    Alternatively, click Save All Now to save all files in the list, named as indicated in the Hooping Sequence panel. The software outputs the hoopings to their individual files.

5. Click Close to return to the normal design window.

OUTPUT WITH MULTI-POSITION HOOPS

The embroidery software supports both MA and Giga hoops. These are two-position hoops which expands the available sewing area of the machine for which it is supplied.

Stitch with an MA Hoop

The software supports the MA Hoop. This is a two-position hoop which expands the available sewing area of the machine for which it is supplied. In the list of available hoops, the MA Hoop is identified as 'Hoop MA (200 x 280)'. The two sewing fields are shown in red and blue. When digitizing, each embroidery object must fit entirely into one or other hoop position.

The behavior of the MA Hoop during loading and editing of embroidery designs is exactly the same as for a normal rectangular hoop of size 200 x 280. The fact that there are two sewing fields has no effect until you save the design or send it to a machine. When sending to machine, in most cases the software will only create one file as the two hoop positions are saved in a single JEF file. However, if a return to hoop position 1 is required, the software will create two (or on rare occasions, more) files.
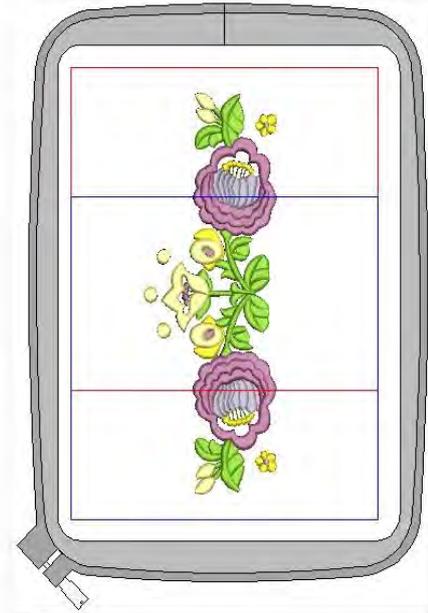
To stitch a design with an MA Hoop...

1. Open the design to send to machine.
   The two sewing fields are shown in red and blue. When digitizing, each embroidery object must fit entirely into one or other hoop position. Sizes are shown in mm for a 1:1 display. At other display scales, values are scaled proportionally.

2. Click the Send to Machine icon on the Standard toolbar or select Machine > Send a Design.
   If the machine is correctly linked, the Write a Design dialog opens. See Sending & writing designs for details.

3. Click the Send button.
   The software determines whether there are any objects that do not lie wholly within one of the hoop's two positions:

   o   If there are, they are selected in the design window and you are prompted to edit or delete them. Otherwise the software determines how many hoopings are needed.

   o   If only one is needed, or two with the upper position first, the software creates a single JEF file containing these hoopings and sends it to the machine.

   o   Otherwise it calculates the number of hooping position changes and prompts you to proceed. If you agree, it creates multiple JEF files and sends them to machine.

4. Click OK.
   The JEF file names are numbered with a hyphen – 'My Flower- 1.JEF' and 'My Flower- 2.JEF'. When the machine loads the first of the multiple JEF files, it stitches the upper-position first, then prompts you to move the hoop to the lower position. Always have the hoop in the upper

position when the machine starts stitching a new JEF file unless you are explicitly prompted to shift frame. This may be necessary in cases where a hooping pair must be split because it has too many stitches or too many color changes.

Stitch with a Giga Hoop

Your embroidery software supports the Giga Hoop. This is a two-position hoop which expands the available sewing area of the machine for which it is supplied. Use of the Giga Hoop is similar to the MA Hoop. See also Stitching designs with an MA Hoop.

In the list of available hoops, the Giga Hoop appears as 'Hoop D (220 x 190) (Giga)'. The two sewing fields are shown in red and blue. The red area is normally stitched first. Then, after rotating the hoop, the blue area is stitched.

The physical embroidery area of the Giga Hoop is 230 x 200 mm. This is represented by the solid line. However, any rotation of the hoop may cause a small positioning gap. To avoid this, a margin of 5mm is allowed on both sides, which makes the actual embroidery area 220 x 190 mm. This is represented by the dashed line. We recommend you stay within the dashed area.
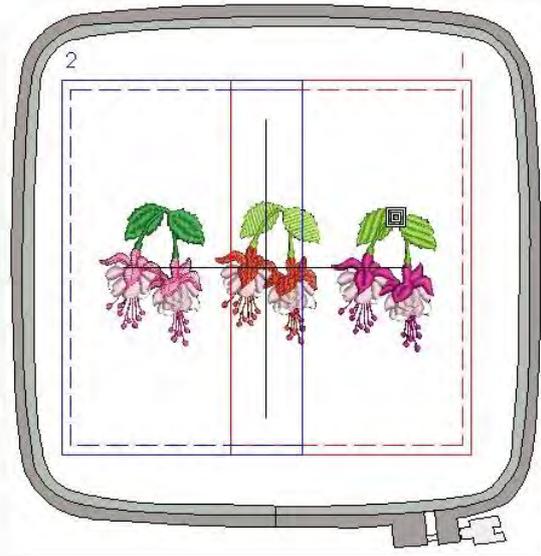
When digitizing, embroidery objects must fit entirely within one or other hoop position. That is, you cannot save designs which include objects that straddle both hoop positions.

Also, if objects in the blue area are sequenced before the red, you cannot save as a Giga Hoop design. That is, you cannot create a Giga Hoop JEF file which has its start in the second hoop position as this would require more than a single JEF file which is not allowed.

To stitch a design with a Giga Hoop...

1. Open the design to send to machine.
    The two sewing fields are shown in red and blue. When digitizing, each embroidery object must fit entirely into one or other hoop position.

2. Click the Send to Machine icon on the Standard toolbar or select Machine > Send a Design. If the machine is correctly linked, the Write a Design dialog opens.

3. Click the Send button. The software determines whether there are any objects that do not lie wholly within one of the hoop's two positions.

    o   If the design can be stitched in the Giga hoop, the Send a Design (on-line) dialog opens.

    o   If the design will not stitch as a single Giga hoop design – i.e. it would require more than one rotation of the Giga hoop to preserve the stitching sequence – the following message is displayed:

4. Click OK and use Combine mode to create two Hoop B hoopings as instructed.

5. Select the design name and click the Send button.
   The design will be sent to the machine as two individual JEF files – Hoop position A and Hoop position B. However, the machine display will show the design as a single design unless the file cannot be stitched in two files due to the object stitching sequence.