ABOUT THIS MANUAL

This manual provides details on IQ Designer, which is available with the upgrade. Make sure that the machine has been upgraded to the most recent version.

When you find this icon on the title in this manual, you can find the tutorial video of the procedure in your machine.
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Embellishing around a pattern in embroidery (a quilting function) 33
With IQ Designer, you can use the functions listed below:

- Hand-drawn functions - creating embroidery patterns by drawing on the LCD screen
- Scanning functions - creating embroidery patterns by not only scanning object with built-in camera, but also imported data from USB media, SD card or computer.

You can also combine patterns that you have created with the machine’s built-in patterns.

**Starting IQ Designer for the First Time**

IQ Designer will be activated once the scanning frame has been attached. After the initial activation is complete, you no longer have to attach the scanning frame. View the tutorial video that shows how to use IQ Designer.

**Memo**

- This is required only for the first time that IQ Designer is used. After the first time, IQ Designer will be available even if the scanning frame is not attached.
- In order to use IQ Designer after upgrading the machine, attach the scanning frame to enable IQ Designer.

**Attaching the Scanning Frame**

1. Remove the two thumb screws securing the embroidery frame holder, and then remove the frame holder from the machine.

2. Install the needle plate cover included with the machine.

3. Align the holes in the scanning frame with the pins on the frame-mounting plate of the carriage.

4. Secure the scanning frame with the two thumb screws removed in step 1.
The IQ Designer icon appears in the home screen.

Basics: Creating a Pattern

Start IQ Designer by pressing the IQ icon in the home page screen.

**CAUTION**

- Only touch the screen with your finger or the pen (stylus) included with the machine. Do not use a mechanical pencil, screwdriver or any other hard or sharp object. In addition, do not press the screen with extreme pressure. Otherwise the screen may be damaged.
- All or part of the screen may sometimes become darker or lighter due to changes in the surrounding temperature or other changes in the environment. This is not a sign of a malfunction. If the screen is difficult to read, adjust its brightness.

1. Draw a line drawing in the pattern drawing screen. (page 8)

2. Adding color to the pattern.
3. Select colors, fill stitches and desired patterns to complete your design.

4. Specify stitch settings. (page 15)
   * Further customize your pattern by specifying embroidery stitch settings, such as satin stitch width and density.

5. Convert image data to embroidery data.
   → The embroidery image preview screen appears. (page 17)

6. Edit the pattern in the embroidery edit screen, for example, by combining it with the machine’s built-in patterns.
   * For details on how to edit the pattern, refer to “Editing the Embroidery Pattern (Pattern Editing Screen)” in the Instruction and Reference Guide.

   → Embroidering begins.
Memo

- The actual dimension of the pattern area is the size of the embroidery frame, which is 360 mm × 200 mm (approx. 14 inches × 7-7/8 inches). The pattern you drew may be bigger than you expected. Please resize the pattern after converting the design to the embroidery pattern.

- When the pattern is enlarged so that only a part of it appears in the pattern drawing area, the entire pattern is displayed in the pattern preview area. The red frame in the pattern preview area indicates the part of the pattern displayed in the pattern drawing area. Move the red frame in the pattern preview area with the touch pen or your finger to display the corresponding area in the pattern drawing area.
# Key functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Display</th>
<th>Key Name</th>
<th>Explanation</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image1" alt="Image scan key" /></td>
<td>Image scan key</td>
<td>Press this key to scan the attached frame and display on the screen as the background while using the IQ Designer. You can scan the fabric as the background or scan the picture as the reference when creating the pattern.</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td><img src="image2" alt="Create Line Image" /></td>
<td>Line design key</td>
<td>Press this key to scan the line drawing to edit and convert to the embroidery data using the built-in camera. You can also import the line drawing image from USB media, computer or SD card and create the embroidery design.</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td><img src="image3" alt="Create Fill Image" /></td>
<td>Illustration design key</td>
<td>Press this key to scan the illustration to edit and convert to the embroidery data using the built-in camera. You can also import the illustration from USB media, computer or SD card and create the embroidery design.</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td><img src="image4" alt="Magnify key" /></td>
<td>Magnify key</td>
<td>Press this key to magnify the pattern.</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td><img src="image5" alt="Stamp key" /></td>
<td>Stamp key</td>
<td>Press this key to select the stamp shape for pattern drawing.</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td><img src="image6" alt="Rotate" /></td>
<td>Rotate key</td>
<td>Press this key to rotate the selected section.</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td><img src="image7" alt="Size" /></td>
<td>Size key</td>
<td>Press this key to change the size of the selected section.</td>
<td>14</td>
</tr>
<tr>
<td>8</td>
<td><img src="image8" alt="Erase key" /></td>
<td>Erase key</td>
<td>Press this key to erase lines and shapes that have been drawn. You can select the size/shape of the eraser.</td>
<td>13</td>
</tr>
<tr>
<td>9</td>
<td><img src="image9" alt="Paste key" /></td>
<td>Paste key</td>
<td>Press this key to paste in the selected section duplicated with the duplicate key or a selected section using the cut key.</td>
<td>—</td>
</tr>
<tr>
<td>10</td>
<td><img src="image10" alt="Duplicate key" /></td>
<td>Duplicate key</td>
<td>Press this key to duplicate the selected section. The temporarily positioned section can immediately be rotated, enlarged, reduced or moved.</td>
<td>—</td>
</tr>
<tr>
<td>11</td>
<td><img src="image11" alt="Cut key" /></td>
<td>Cut key</td>
<td>Press this key to cut out the selected section.</td>
<td>—</td>
</tr>
<tr>
<td>12</td>
<td><img src="image12" alt="Select key" /></td>
<td>Select key</td>
<td>Press this key to select a section for moving by finger or pen, copying, deleting, changing size and rotating lines and shapes that have been drawn.</td>
<td>13</td>
</tr>
<tr>
<td>13</td>
<td><img src="image13" alt="Next key" /></td>
<td>Next key</td>
<td>Press this key to continue to the stitch settings screen.</td>
<td>—</td>
</tr>
<tr>
<td>14</td>
<td><img src="image14" alt="Recall key" /></td>
<td>Recall key</td>
<td>Press this key to recall image data created with IQ Designer from the machine's memory, USB media, SD card or the computer.</td>
<td>—</td>
</tr>
<tr>
<td>15</td>
<td><img src="image15" alt="Store key" /></td>
<td>Store key</td>
<td>Press this key to store the pattern being created.</td>
<td>—</td>
</tr>
<tr>
<td>16</td>
<td><img src="image16" alt="Undo key" /></td>
<td>Undo key</td>
<td>Press this key to undo the last operation that was performed and return to the previous state. Each press of this key will undo one operation.</td>
<td>—</td>
</tr>
<tr>
<td>17</td>
<td><img src="image17" alt="All Clear" /></td>
<td>All Clear key</td>
<td>Press this key to clear all the lines and shapes and start from the beginning. The background image is also cleared.</td>
<td>—</td>
</tr>
<tr>
<td>18</td>
<td><img src="image18" alt="Cancel key" /></td>
<td>Cancel key</td>
<td>Press this key to exit from the IQ Designer. All lines and shapes are erased when you press this key.</td>
<td>—</td>
</tr>
<tr>
<td>19</td>
<td><img src="image19" alt="Brush tool key" /></td>
<td>Brush tool key</td>
<td>Paint with brush and set the color. You can select the brush type, fill type and color as you need. Painted lines and areas will be converted to the pattern embroidered with fill stitch. Press to pick up the color from a region in the pattern within the pattern drawing area. The picked up color is shown as the currently selected region color beside the button and as the selected color in the Region Property screen.</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td><img src="image20" alt="Line tool key" /></td>
<td>Line tool key</td>
<td>Draw lines and set the color. You can select the line type, stitch type and color as you need. Press to pick up the color from a line in the pattern within the pattern drawing area. The picked up color is shown as the currently selected line color beside the button and as the selected color in the Line Property screen.</td>
<td>8</td>
</tr>
</tbody>
</table>
Before Creating Designs

Select the centerpoint marker or grid lines setting for “Frame Display” to apply the frame display to the pattern drawing area of IQ Designer. For details on the types of embroidery frames and grids available, refer to “Changing the display guides” in the Instruction and Reference Guide included with the machine.

1. Attach the frame to be used.

Memo
- The frame type cannot be changed in the settings screen.

2. Press .

3. Select the grid line of the “Frame Display”.

Drawing Lines

Press and draw lines.

Memo
- All the regions will be displayed in pale, when is pressed, to clarify the drawing lines on the screen.

① Grid types
* Select the grid size 10 mm (3/8 inch) or 25 mm (1 inch).
Setting the line types, stitch types and colors

You can set or change the line types, stitch types and colors anytime. You can also specify the line types, stitch types and colors before drawing lines.

1. Press to set the line types, stitch types and colors.

   → The settings screen appears.

   ① Line types
   ② Stitch types
   ③ Line color selection: touch the color palette to activate the drawing pen color.

Line types

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🖍️</td>
<td>Freehand line with the end open.</td>
</tr>
<tr>
<td>🖍️</td>
<td>Freehand line closing the end automatically.</td>
</tr>
<tr>
<td>✂️</td>
<td>Straight line with one stroke</td>
</tr>
<tr>
<td>⚡️</td>
<td>Straight line changing directions to the point you select. If the end point is created near the start point, a closed object will be created.</td>
</tr>
</tbody>
</table>

Stitch types

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🤢</td>
<td>Zigzag stitch</td>
</tr>
<tr>
<td>⛹️</td>
<td>Running stitch</td>
</tr>
<tr>
<td>⛹️</td>
<td>Triple stitch</td>
</tr>
<tr>
<td>⛹️</td>
<td>Candlewicking stitch</td>
</tr>
<tr>
<td>⛹️</td>
<td>Chain stitch</td>
</tr>
<tr>
<td>⛹️</td>
<td>Line without stitch for creating a region. Created region will be defined by the gray line.</td>
</tr>
</tbody>
</table>

2. Press to return to the pattern drawing screen.

   → The color bar on the line tool key is changed to the selected color.
   * The appearance of the line does not change even if the line type was changed. The specified line type can be checked in the stitch settings screen.
3 Press \( \text{\textbullet} \) then press on the line to change its color.

→ The connected line will be changed to the selected color included with the machine.

**Memo**
- Press \( \text{\textbullet} \) to magnify the image when you cannot press on the line correctly. For details on magnify the image, refer to “Enlarge the pattern image on the screen” in the Instruction and Reference Guide included with the machine.
- Press \( \text{\textbullet} \), and then select a color within the pattern drawing area to apply the same color to other lines or parts of the pattern.

Drawing Regions

1 Press \( \text{\textbullet} \) and draw with brush.

**Setting the brush types and fill colors**

1 Press \( \text{\textbullet} \) to set the brush types and fill colors.

   1 Brush types
   2 Fill stitch types
   3 Fill color selection: touch the color palette to activate the paint brush color.

**Brush shapes/sizes**

- Square brush
- Round brush
- Small brush
- Medium brush
- Large brush
Fill stitch types

<table>
<thead>
<tr>
<th>Fill stitch pattern</th>
<th>Stippling pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select decorative fill patterns</td>
<td>Displays a fill pattern selection screen, where</td>
</tr>
<tr>
<td>can be pressed to select a pattern.</td>
<td></td>
</tr>
</tbody>
</table>

Select when you don’t want fill stitch.

2. Press OK to return to the pattern drawing screen.

→ The color bar on the brush tool key is changed to the selected color.

3. Press and press on the brush line to change color and fill stitch types. You can also set the fill color, stitch type and fill pattern of a closed area made of the lines and brush lines.

Memo

- Press to magnify the image when you cannot press on the fill correctly.

- Press , and then select a pattern color in the pattern drawing area to apply that fill color to other patterns.

① Use to select the fill color.

② Press for changing the fill color, and then select the pattern to be changed.
Using the stamp key

1 Press [ ] .

2 Select a stamp type and stamp shape.

   Stamp shapes
   - Basic shapes
   - Closed shapes
   - Open shapes

   Stamp types (Only for Basic shapes)
   - Outline
   - Fill stitch
   - Outline and fill stitch

   * Select the outline ( ), fill stitch ( ), or outline and fill stitch ( ) of a basic shape.

   Saved outlines
   Embroidery pattern outlines can be registered as stamp shapes. When registering stamp shapes, select from the last six embroidery patterns used. If more than six shapes are registered, the oldest one is automatically erased. For details on registering a stamp shape, refer to "Embellishing around a pattern in embroidery (a quilting function)" on page 33.

   Frame embroidering areas
   Select an embroidering area in order to arrange the pattern to fit an embroidery frame.

   * Press [ Cancel ] to return to the pattern drawing screen.

3 Press [ OK ] to set the selected stamp.

   → The pattern drawing screen is displayed.

   * You can change size of, rotate or move the shape right after you create it by pressing [ Size ] [ Rotate ] [ Off ].
**Using the erase key**

1. Press [_erase].

2. Select the size and shape of the eraser.

   * If the selected key will be used, press [Close].
   → The pattern drawing screen is displayed.

3. Drag along the area or line that you want to erase while the key appears as [_erase].

**Using the select key**

You can select the part of the design to move and/or edit. Some keys are available only after you select the part.

1. Press [select].

2. Select the area you want to edit.

   * To select an area you want to edit, hold the stylus at a point on the screen and drag the stylus to create the red box around your selected area to be edited.
3 When **Size** is pressed, the pattern size is displayed in the screen.

![Pattern Size Screen]

- **①** Shows the size for the selected part.
- **②** Reverts to the original size.

4 When **Rotate** is pressed, the pattern rotation angle is displayed in the screen.

![Pattern Rotation Screen]

- **③** Shows the angle for the selected part.

5 Edit the design with available keys. (See "Key functions" on page 7 for the details of each key function.)

6 Press **Start**, and then specify the stitch setting.
STITCH SETTINGS SCREEN

Before creating the embroidery pattern, specify the stitch settings. Lines of the design are sewn with various stitches and areas are sewn with fill stitches or stippling stitches. Stitching of the areas were already selected in “Drawing Regions” on page 10, so specify values of detailed settings.

After specifying the settings, press to create the embroidery pattern.

If the design data is saved, the settings can be changed after a trial embroidering.

Specifying individual stitch settings

Select a pattern in the stitch settings screen to specify its line and region stitch settings. If multiple patterns are selected, the settings are applied to those patterns.

Line settings

Line sew stitch settings
Select the type of stitching you want applied to your line art, from zigzag stitch ( ), running stitch ( ), triple stitch ( ), candlewicking stitch or chain stitch .

Zigzag stitch

- Zigzag width
- Density

Running stitch /Triple stitch
* Both includes an under sewing.

- Run pitch

Region settings

Region settings

- Size
- Spacing
- Density
- Direction
- Pull compensation
- Under sewing

Fill stitch settings

Candlewicking Stitch

- Size
- Spacing

Chain stitch

- Size
- Repetition

1. Shows the stitch type and color for the selected line.
2. Shows the stitch settings for the selected line.

1. Shows the stitch type and color for the selected region.
2. Shows the stitch settings for the selected region.

1. Increases/reduces the size of the pattern.
2. Specifies the spacing of the candlewicking stitch.
3. Sets repeated sewing at the same part.

1. Specifies the sewing direction. Select “Manual” to change to the desired direction of fill stitch.
2. Specifies the stitch density of fill stitch.
3. Specifies to correct the shrinkage of the pattern by slightly shortening or lengthening the stitching. Change the setting after you embroider the pattern and can check the shrinkage.
4. Select if you need or do not need the under sewing for the stabilized fabric.
**Stippling stitch settings**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run pitch</td>
<td>Specifies the length of a stitch of the stippling stitch.</td>
</tr>
<tr>
<td>Spacing</td>
<td>Specifies the spacing between the stitches when embroidering the stippling stitch.</td>
</tr>
<tr>
<td>Distance</td>
<td>Specifies the offset from the pattern outline.</td>
</tr>
</tbody>
</table>

**Decorative fill**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Increases/reduces the size of the pattern.</td>
</tr>
<tr>
<td>Direction</td>
<td>Specifies the rotation angle of the pattern.</td>
</tr>
<tr>
<td>Outline</td>
<td>The outline will be converted to embroidery data whether “ON” or “OFF” is selected. If “ON” is selected, the number of thread jumps can be reduced.</td>
</tr>
</tbody>
</table>

1. **Use** to select the line or region to be changed.

   → Each press of moves the highlighting of the selected pattern in order.

2. **Select the setting to be changed, and then change the setting in the screen that appears. (In this example, the sewing direction will be changed.)**

   → The setting screen appears.

3. **Press , and then use to change the direction.**

4. **Press to apply the setting.**

   * appears on the tab for setting currently being changed.
   * Change other settings in the same way.

---

**Specifying global stitch settings**

The same stitch settings can be changed at the same time for multiple patterns of the same type.

1. **Use to select the stitch whose settings are to be changed, and then press .**

   → The same stitch type areas will be selected at the same time.

2. **Follow steps through in “Specifying individual stitch settings” on page 15 to change the settings.**

---

**After specifying the settings**

Press to create the embroidery pattern.
EMBROIDERY IMAGE PREVIEW SCREEN

You can check the total stitch number, embroidery time and spool thread color number to embroider the pattern. Press [ ] to check the pattern image within the embroidery frame.

Press [ Set ] to proceed to the embroidery edit screen.

**Note**
- Once you proceed to the embroidery edit screen, you cannot return to the IQ Designer.

Press [ ] to save the pattern as the embroidering data.

Press [ Return ] to return to the stitch settings screen.
Using the Scan Frame

1. Prepare the desired drawing/illustration.

2. Position the paper to be scanned so that it is aligned with the lower-left corner, securing the paper in place with the magnets.
   * Place the magnets at six locations around the paper to secure it, making sure that the line drawing is not covered.

**CAUTION**
• Do not set the fabric, the paper with crease or luster or the paper that is too thick or rolled up to the scan frame. Otherwise, the frame may strike the embroidery foot, and possibly cause injury.

**Memo**
• Only one sheet of paper can be placed in the scanning frame per scan.

**Note**
• The scanning area is 300 mm x 200 mm (approx. 11-3/4 inches x 7-7/8 inches). There are scan area marks with the frame. Make sure that the paper is placed within the mark. Any part of the image that is outside the mark will not be scanned.

• If you want to scan an image from a small piece of paper that can’t be held with the magnets, copy that image onto a larger piece of paper, to then be placed on the scanning frame.

• When placing the paper in the scanning frame, make sure that the white balance area is not hidden; otherwise, the drawing cannot be scanned correctly. At the same time, be sure to place the scan image within the scan area. The image out of the scan area will not be scanned.

• Make sure that the white balance area or the scan area is not dirty or scratched; otherwise, the image cannot be scanned correctly.

• Be sure to use the magnets which are included with the scanning frame. If any other magnets are used, they may become attached to the machine during scanning, or other problems, such as a misaligned scan image, may occur.

• Be sure to place the magnets so that they secure the paper firmly. If the paper is placed unevenly, the image cannot be scanned correctly.

• If the scanning frame is dirty, wipe it with a cloth dampened with a diluted neutral detergent solution.
Scanning to Trace Background Image

If you have a favorite picture or drawing, it can easily be traced on the scanned background image and you can create your own pattern.

1 Press  .

→ The image display screen appears.

2 Using the magnets, affix a picture to the scanning frame and attach the frame to the machine. Refer to “Using the Scan Frame” on page 18.

3 Press  .

→ When the following message appears, press  .

Scanning begins.
* To stop scanning and return to the screen in step 3, press  .

→ When the following message appears, remove the scanning frame, install the needle plate cover, and then re-install the scanning frame, and then press  .

4 When scanning is finished, scanned image is dimly displayed in the pattern drawing area.

Note
• When scanning starts, some of the machine lights will turn off in certain circumstances, in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.
• You can import an image of 2 MB or smaller from USB media, computer or SD card.
5 Using the included touch pen, press \( \text{①} \), and then draw lines to trace the image.

* For details on drawing lines, refer to “Drawing Lines” on page 8.

1 Press \( \text{①} \).

→ The image display screen appears.

6 After editing the pattern, press \( \text{②} \) to specify the settings for pattern.

7 Press \( \text{③} \) to create the embroidery pattern.

■ Importing the Background image

Prepare the data file of your favorite picture so that you can create an embroidery pattern. Save data in your computer, on a USB media stick or SD card.

2 Select the device you saved the data to.

3 Select the data, and then press \( \text{④} \).

4 The selected image is dimly displayed in the pattern drawing area.

5 Transparency adjustment

* Press \( \text{⑤} \) or \( \text{⑥} \) to adjust the transparency of the background.

Each press of \( \text{⑤} \) lightens the background, making the line pattern darker. Each press of \( \text{⑥} \) darkens the background, making the line pattern lighter.

6 After editing the pattern, press \( \text{⑦} \) to specify the settings for pattern.

7 Press \( \text{⑧} \) to create the embroidery pattern.

* After the scanned image is converted to stitching, it appears as a background in the pattern drawing screen. Use gauge \( \text{⑨} \) to adjust the transparency of the background. Each press of \( \text{⑩} \) lightens the background, making the line pattern darker. Each press of \( \text{⑪} \) darkens the background, making the line pattern lighter.
Custom patterns can be created from drawings. You can create patterns by scanning your drawings using the included scan frame or importing an image from USB media, computer or SD card.

Recommended line drawings for Line Scan

- Line drawings must be drawn clearly using lines with approximately 1 mm thickness.
- Line drawings should be drawn in a strong contrast.
- If the lines are too short or gathered in small space, they will not be scanned correctly.

**Note**

- For details on creating patterns using color illustrations, refer to “ILLUSTRATION SCAN” on page 24.
- If you cannot scan the drawings as expected, you can edit the design in the IQ Designer. Refer to “PATTERN DRAWING SCREEN” on page 6.
- Line drawings are scanned without recognizing the thickness of lines. If you want to change the thickness of lines, specify in the Settings screen. Refer to “STITCH SETTINGS SCREEN” on page 15.
- Line drawings are scanned as black lines. If you want to change the colors, specify in the IQ Designer. Refer to “Drawing Regions” on page 10.

### Using the Scanning Frame to Create a Pattern with Line Scan

1. Press \[ IQ \].

2. Press \[ Create Line Image \].

→ The image display screen appears.
**Press** Scan .

* To import an image from USB media, computer or SD card, press , , or . For details, refer to “Importing the Background image” on page 20.

* If you scan the image, make sure that the scanning frame is attached to the machine. Refer to “Using the Scan Frame” on page 18.

**Note**

- When scanning starts, some of the machine lights will turn off in certain circumstances, in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.
- You can import an image of 2 MB or smaller from USB media, computer or SD card.

→ When the following message appears, press OK .

→ Scanning begins.

* To stop scanning and return to the screen in step 3, press Cancel .

**When scanning is finished, specify the “Gray-Scale Detection level” on the screen if necessary.**

The “Gray-Scale Detection level” can change the black and white threshold for the image.

* If you do not know how the settings should be changed, first continue the operation without specifying settings and check the results.

* To stop scanning and return to the screen in step 3, press Cancel . The scanned image will be deleted when you return to the previous screen.

**Move** to frame the image for the pattern.

**Press** OK .

→ The screen for confirming the converted image appears.
In the screen for confirming the converted image, you can adjust the “Gray-Scale Detection level” again, if necessary.

1 The settings for the lines to be sewn appear.
* If you do not know how the settings should be changed, first continue the operation without specifying settings and check the results.
* To enlarge the image, press .
* To display the image before being converted, press . Compare the images before and after being converted, and then change the settings if necessary.
* To return to the previous screen, press .
→ After changes to the settings for “Gray-Scale Detection level” is applied, changes to . Press to check that the image is as desired.

Press .
→ The pattern drawing screen is displayed.

If necessary, edit the scanned image.

* After the scanned image is converted to stitching, it appears as a background in the pattern drawing screen. Use gauge to adjust the transparency of the background. Each press of lightens the background, making the line pattern darker. Each press of darkens the background, making the line pattern lighter.

Note
* During scanning, the small dots that appear and unnecessary lines can be erased.
Custom patterns can be created from color illustrations. You can create patterns by scanning an illustration using the included scanning frame or importing an image from USB media, computer or SD card.

Recommended illustrations for Illustration Scan

- Patterns that are clearly drawn, with no gradation, fading or blurriness.
- Patterns that are at least a 5 mm square
- Patterns that are extremely simple images

Using the Scanning Frame to Create a Pattern with Illustration Scan

1. Press \text{\textbullet~Scan~}. 
2. Press \text{\textbullet~Create Fill Image~}.

   → The image display screen appears.

3. Press \text{\textbullet~Scan~}. 

   * To import an image from USB media, computer or SD card, press \text{\textbullet~Import~}.

   → When the following message appears, press \text{\textbullet~OK~}.

   → Scanning begins.
   * To stop scanning and return to the screen in step 3, press \text{\textbullet~Cancel~}.

Note

- When scanning starts, some of the machine lights will turn off in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.
When scanning is finished, specify the necessary settings in the scan image confirmation screen.

Change the settings to adjust the image so it can easily be converted to the desired pattern.

**4** When scanning is finished, specify the necessary settings in the scan image confirmation screen.

Change the settings to adjust the image so it can easily be converted to the desired pattern.

In the screen for confirming the converted image, adjust the image as necessary as in step 4.

* To stop scanning and return to the screen in step c, press .

Move  to frame the image for the pattern.

Press .

→ The screen for confirming the converted image appears.

Memo

- Press  to detect the outline.
- Line thickness can be specified from 1.0 mm (1/16 inch) to 5.0 mm (3/16 inch).

Line

3.0 mm

- By touching the scanned image, select the color that is wanted to be detected as the outline.
- The  moves to the point you touched.
- You can also move  by using .

Note

- During scanning, the small dots that appear and unnecessary lines can be erased.

Max. Number of Colors

The number of colors in an image will be reduced less than the number specified here, and then the outline will be extracted.

Remove Background

Select whether or not the background color will be included as one of the colors.

Line

Select whether or not the outline will be detected as a line. A thick outline can also be detected as a region. When detected as a line, the line thickness and color can be specified.

* To enlarge the image, press .
* To display the image before being converted, press . Compare the images before and after being converted, and then change the settings if necessary.
* To return to the previous screen, press .
→ After changes to the settings described above have been applied, changes to . Press to check that the image is as desired.

Press .

→ The pattern drawing screen is displayed.

If necessary, edit the scanned image.

* After the scanned image is converted to stitching, it appears as a background in the pattern drawing screen. Use gauge  to adjust the transparency of the background. Each press of  lightens the background, making the illustration pattern darker. Each press of  darkens the background, making the illustration pattern lighter.

Max. Number of Colors

The number of colors in an image will be reduced less than the number specified here, and then the outline will be extracted.

Remove Background

Select whether or not the background color will be included as one of the colors.

Line

Select whether or not the outline will be detected as a line. A thick outline can also be detected as a region. When detected as a line, the line thickness and color can be specified.

* To enlarge the image, press .
* To display the image before being converted, press . Compare the images before and after being converted, and then change the settings if necessary.
* To return to the previous screen, press .
→ After changes to the settings described above have been applied, changes to . Press to check that the image is as desired.
Basic Stippling with IQ Designer

Create a stippling design with the basic procedure. Example:

1. Press  .

2. Press  .

3. Select the square shape, and then press  .

4. Press  .

5. Select the heart shape, and then press  .

6. Press  .
7 Press until the heart shape fits in the square shape, and then press .

8 Press , and then .

9 Press , and then select the stitch color. Press after setting the color.

10 Select the area you want to set stippling effect.

11 Press .

12 Adjust the stippling settings to create the desired effect, and then press .

* For details, refer to “Specifying individual stitch settings” on page 15.

13 When the following message appears, press .

14 Press to convert into embroidery.
→ When the following message appears, press OK.

15 Follow the procedure described on “Editing the Embroidery Pattern (Pattern Editing Screen)” in the Instruction and Reference Guide included with the machine to edit the pattern as desired.

**Scanning Drawing to Create Stippling Pattern**

Create a custom pattern with stippling design.

**Example:**

1. Place a drawing of your design on the scanning frame.
2. Press OK.

→ The image display screen appears.

4. Position the scanning frame on the machine, and then press Scan.

5. When scanning is finished, move to frame the image for the pattern, and then press OK.

**Note**

- When scanning starts, some of the machine lights will turn off in certain circumstances, in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.
- You can import an image of 2 MB or smaller from USB media, computer or SD card.

→ When the following message appears, press OK.

→ Scanning begins.

* To stop scanning and return to the screen in step 4, press Cancel.

→ The image display screen appears.
6 The screen for confirming the converted image appears, adjust the image if necessary and then press .

→ The pattern drawing screen is displayed.

7 To set the outline of the pattern, press , and then .

8 Press , and then . This will set the outline without a stitch.

9 Select the outline of the pattern.

10 Press to select the color of the stitch around the stippling effect.

11 Press and select the stitch color, and then press .
12 Select the stitch line around the stippling effect.

15 Select the area you want to set stippling effect.

13 To set the stitch color and fill stitch type, press

16 Follow the procedure from step 10 on page 26 of “Basic Stippling with IQ Designer”.

**Scanning Fabric and Stippling**

Use the fabric pattern to coordinate with the stippling pattern.

1 Set the fabric to the embroidery frame.
2 Press .
3 Press .

→ The image display screen appears.
Position the embroidery frame on the machine, and then press \[\text{Scan}\].

Select the circle shape, and then press \[\text{OK}\].

Press \[\text{Size}\] to increase or decrease the size of the circle.

Press \[\text{until the size of circle fits the pattern on the fabric, and then press \[\text{OK}\].}

Press \[\text{OK}\].

Memo
- Although the instructions in the LCD screen refer to the scanning frame, this example uses an embroidery frame for scanning.

Note
- When scanning starts, some of the machine lights will turn off in certain circumstances, in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.
- You can import an image of 2 MB or smaller from USB media, computer or SD card.

→ When the following message appears, press \[\text{OK}\].

→ Scanning begins.
* To stop scanning and return to the screen in step \[\text{4}\], press \[\text{Cancel}\].

Press \[\text{OK}\].

* Use \[\text{to align the position of the circle to the pattern on the fabric.}\]
To set the stitch color and fill stitch type, press \ and then \.

Press \ and then select the stitch color. Press \ after setting the color.

Select the area you want to set stippling effect.

To set the outline of the pattern, press \ and then \.

Press \ and then \. This will set the outline without a stitch.

Select the outline of the pattern.

Follow the procedure from step \ on page 26 of “Basic Stippling with IQ Designer”.

→ Start embroidering on the fabric that you scanned at first.
Embellishing around a pattern in embroidery (a quilting function)

A quilt can be created with stippling around an embroidery pattern.

1 Hoop the embroidery frame with batting sandwiched between two layers of fabric, and then attach the frame to the machine.

2 Select the pattern that embellishment will be added around, and then press in the embroidery edit screen.

→ The outline of the pattern is displayed.

Memo
• For best results, reduce the sewing speed.

3 Press .

→ A message appears, and the pattern outline is registered as a stamp shape in IQ Designer. Press .

4 Press to continue to the embroidery screen, and then embroider the pattern.

5 Press in the home page screen to start the IQ Designer.

6 Press to scan the embroidered fabric.
Press \( \text{ } \), press \( \text{ } \) to recall the stamp shape registered in step 2, and then arrange it over the scanned pattern.

Use a stamp or rectangular frame to determine the area to be embellished.

Note
• If the area is to be drawn by hand, be sure to draw a completely closed shape. If the area is not closed, it cannot be correctly filled with the decorating.

Use the brush tool keys to select the pattern and color of the embellishment.

Fill the area to be embellished outside of the stamp shape outline.

Set the line type for the frame and pattern to \( \text{ } \), and then press \( \text{ } \).

* Stitch settings can be adjusted in the stitch settings screen. For details, refer to “STITCH SETTINGS SCREEN” on page 15.
12 Specify the stitch spacing and length in the stitch settings screen, and then press .

→ Check the pattern, and then press .

13 Embroider the stippling around the embroidery pattern.