



# Using Tajima DG16 by Pulse

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# CHAPTER 1

## Getting Started

Welcome to the Tajima DG16 by Pulse embroidery design system for embroidery machines. The Using Tajima DG16 by Pulse guide provides you with the information you need to learn about and begin using Tajima DG16 by Pulse.



Tajima DG16 by Pulse is available in various system levels. The information in the User's Guide applies to all users, regardless of which system level you have. For more information concerning the features available to you, please contact your distributor.

Because the Tajima DG16 by Pulse product line is divided into different levels, you can add new features by upgrading to a higher level as your needs change. For a full description of features available in each level, see our marketing brochures or talk to your distributor. For more information about Tajima DG16 by Pulse, please visit our web site at [www.pulsemicro.com](http://www.pulsemicro.com).

*Topics covered in this chapter:*

- Basic information about Tajima DG16 by Pulse.
- How to connect hardware such as the security device and embroidery machine.
- Installing Tajima DG16 by Pulse and use other disk formats.

# Getting Started

## The Tajima DG16 by Pulse Package



Not all features referred to in the manual may apply to your level of the software. For more information concerning the features available to you, please contact your distributor.

We recommend that you follow the procedures outlined in here to ensure that you install Tajima DG16 by Pulse correctly.

Each Tajima DG16 by Pulse package includes the following components:

- The Tajima DG16 by Pulse installation CD-ROM.
- Tajima DG16 by Pulse security device with serial number  
*The security device may be shipped separately, depending on your distributor.*

## System Requirements

Below is a list of the recommended system requirements for running Tajima DG16 by Pulse. For optimal performance, install on a computer with these specifications.

### Recommended System Requirements:

- PC with a 64-bit 3.0 GHz (or faster) Quad Core Genuine Intel processor
- Microsoft® Windows® 7, Windows® 8 or Windows® 10 operating system (64-bit).
- 8 GB of RAM
- 4 GB hard disk drive space
- Mouse
- At least one USB port (to attach the security device)
- A LAN (Local Area Network) connection

The following are the minimum system requirements that the program needs to operate.

### Minimum System Requirements:

- PC with a 64-bit 1.0 GHz (or faster) Quad Core Genuine Intel processor
- Microsoft® Windows® 7, Windows® 8 or Windows® 10 operating system (64-bit).
- Monitor with 1024x768 video resolution with 16-bit color display (or higher).
- 2 GB RAM
- 1 GB hard disk drive space
- Mouse
- At least one USB port to (attach your security device)
- A LAN (Local Area Network) connection



Specifications are subject to change without prior notice. For additional information on setup and system requirements, contact your distributor.

## Backing up Files



If Microsoft Backup is not currently installed on your computer, refer to the Windows online Help for installation instructions.

Windows comes with an efficient file backup program called Backup & Restore. We recommend you backup files and designs on a regular basis. Backing up your work protects your designs in case the data on your computer is lost or damaged.

### To back up files:

- 1 Click Start.
- 2 In Windows, open Control Panel—System & Security—Backup and Restore

- 3 Follow the instructions provided.  
*If you have any problems, consult the Microsoft Backup's online Help.*

## Connecting Hardware

Tajima DG16 by Pulse supports many different peripheral devices. The two most important devices you need to connect to are the security device and the embroidery machine.

After you connect the peripheral devices to the ports at the back of your computer, you can install Tajima DG16 by Pulse. The software then configures these hardware components to run with Tajima DG16 by Pulse.

## Connecting the Security Device

All versions of Tajima DG16 by Pulse require a security device to function. The security device is a key that allows you to access the level of software and fonts that you have purchased. Without the security device, Tajima DG16 by Pulse will not run.

The security device attaches to the USB port on your computer. See your computer's user's guide for the location of these ports. Do not connect these devices until the security device driver software has been installed.

We recommend that you insure your security device to protect against theft or loss. If a device is accidentally damaged, you must return it to your distributor to obtain a replacement device.

## Reinstalling the security device driver

It may be necessary to reinstall your security device driver software if you are installing a newer version of Tajima DG16 by Pulse or if you have updated or made changes to your operating system. To reinstall your security device driver, you must first remove your existing driver. Once the security device driver has been installed, you can connect the security device to your computer.

### To remove your existing security device driver:

- 1 Disconnect the security device from the back of your computer if the device is already connected.
- 2 Insert the Tajima DG16 by Pulse CD into the CD-ROM drive.  
*You see an introductory screen.*
- 3 Click Install Security Drivers.
- 4 Click Next at the Welcome screen.  
*You see the InstallShield Wizard window.*
- 5 Select Remove and click Next.
- 6 On the next screen, click Remove to begin removing the security device driver.  
*You see a screen showing the progress of the removal process. A message appears when the removal is complete.*
- 7 Click finish to complete the removal process.
- 8 Restart your computer after removing the security device driver.  
*Once the existing security device driver has been removed, you can install the updated security device driver.*

## Attaching the Security Device

Once the security device driver has been installed, you can connect the security device to your computer.

### To attach a security device:

- 1 Plug the device into your computer's USB port.
- 2 Windows will detect the presence of the new device.

*You see the Found New Hardware Wizard.*

The security device must always be attached to your computer when the system is running or any time you want to use Tajima DG16 by Pulse. Never remove the device or switch devices while the computer is running.



- 3 Click Next to continue. Windows® will search your computer for the security device driver previously installed.  
*After the driver is found, you see a message indicating that driver has been installed.*
- 4 Click Finish to complete the installation.

## Connecting your Embroidery Machine

Tajima DG16 by Pulse can connect to many types of embroidery machines through cable. This enables you to send the embroidery data to the machine directly without using floppy disks. The type of cable used, as well as where the cable is connected on your computer, depends upon the type of connections supported by your embroidery machine.

### Connecting Cables to Your Computer

The cables that are required to connect Tajima DG16 by Pulse to your embroidery machine are specifically designed for this purpose. These cables are available only from your distributor. Do not attempt to connect cables other than those supplied by your distributor to your computer or embroidery machine.



The model of your computer and the connections supported by the embroidery machine determine where you connect your embroidery machine to your computer. See your computer's user's guide for the location of the serial ports on your computer. If you require the proper cables or have questions on the type of connections available for your embroidery machine, please contact your distributor for assistance.

When connecting cables to your computer, you must keep in mind the following:

- Make sure your computer and embroidery machine are turned off before connecting any cables.
- Only use cables approved to connect to your specific embroidery machine.
- Do not connect switch boxes or other devices that are not designed for your

embroidery machine or software. For more information on connecting multiple machines to your computer, see the section on "Networking Multiple Embroidery Machines".

- Never connect embroidery machine cables to the back of your security device as this can damage the security device or embroidery machine.

## Networking multiple embroidery machines

Tajima DG16 by Pulse comes with the ability to connect up to 2 serial embroidery machines. Additional licenses and hardware are available for connecting Tajima DG16 by Pulse with up to 16 serial embroidery machines. Due to the nature of the serial connection, each machine should be no longer than 50 ft.(15M.) from the computer.

Additional options are available for larger or more extensive networks such as Tajima Passport by Pulse. For example, you can set up drivers for USB Serial-Hubs and connect to multiple embroidery machines. You must connect a cable from the USB port on your computer to the USB Serial-Hub. Each embroidery machine you want to use must also be connected to the USB Serial-Hub. Please see your distributor for additional networking options that are available.

## Installing Tajima DG16 by Pulse

Before you can install Tajima DG16 by Pulse, you must connect all embroidery machines. Once done, you can attach your security device and then install the software.



Tajima DG16 by Pulse can only be installed on Windows 7, 8 or 10.

Serial machine connections are made through the Tajima DG16 by Pulse Installation. You may need to install a disk pack after you install Tajima DG16 by Pulse or drivers, depending on your operating system, and then configure the software to use certain embroidery disks.

By default, the program files are installed in Program Files\Tajima\DG16 by Pulse, but you can install in a different location by selecting one during the installation process.

Additional program files including the designs and artwork are installed in the Program Data directory, under Tajima\DG16 by Pulse.

### To install Tajima DG16 by Pulse:

- 1 Insert the Tajima DG16 by Pulse CD into the CD-ROM drive.  
*You see the Autorun screen.*
- 2 Click Install Tajima DG16 by Pulse.



To see the latest documentation available, click the "View Documentation" button.

*You see the Choose Setup Language dialog.*



- 3 Choose the language you want to install and click the Install button.  
*You see an InstallShield Wizard screen.*



- 4 Click Next to start the installation.  
*You see the License Agreement page.*



- 5 To accept the terms of the agreement, check the box below the License Agreement text box.  
*You see the Customer Information page.*



- 6 Type your name and company name in the boxes and click Next.  
*You see the Setup Type page.*

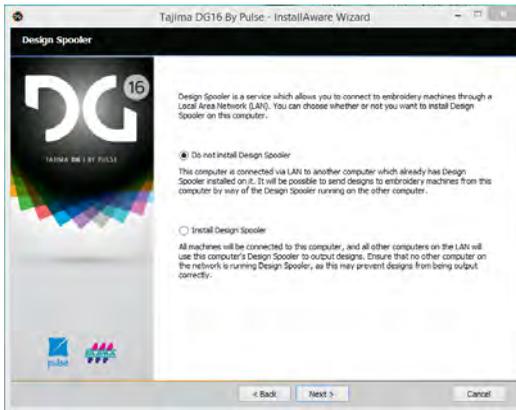


- 7 Select the setup type you want by selecting the appropriate radio button.



Choosing Personalized setup will open the Select Features page. On this page, you can expand the list to view all available features. Check the boxes next to only those you want to install. You can create a fully customized version of the software.

- 8 Click Next.  
*You see the Design Spooler page.*



- 9 On the Design Spooler page, you can choose whether or not to install the Design Spooler along with the program; select the appropriate radio button.



If Design Spooler is already installed on a different computer on your network, you may want to save disk space by not installing it on the current computer.

- 10 Click Next.  
*You see the Destination Folder window.*



- 11 Choose where you want Tajima DG16 by Pulse installed and click Next.  
*You see the Start Menu window.*
- 12 Choose the name you want to assign to the program in the start menu; click Next.



If the computer you are installing on is one that will have multiple users, you can also choose whether to have the DG 15 shortcut icon appear on all users' desktops, or just yours.

*You see the Ready to Install window.*

- 13 To start copying files, click Next.  
*A new Install window opens which shows the progress of the installation. When it is finished, you see the "Setup Complete" window.*



14 Click Finish to complete the installation.



By default, the software will now be launched. To close the installation without starting the program, uncheck the “Run Tajima DG16 by Pulse now” box.

## Opening and Closing the program

### To open Tajima DG16 by Pulse:

- Do one of the following:
  - ♦ Double-click the Tajima DG16 by Pulse icon created on your desktop.
  - ♦ Choose Start—Programs—Tajima—DG16 —Tajima DG16 by Pulse.



The first time you open Tajima DG16 by Pulse you will see a License Agreement dialog. To accept the terms of the agreement, click I agree.

*You see the Tajima DG16 by Pulse start page.*



### To close Tajima DG16 by Pulse:

- Choose File—Exit.

## About the Start Page

The start page will open first each time you start up the Tajima DG16 by Pulse software. The Start Page remains open, in its own tab, while you are working with your designs.



The Start page tab, unlike the design tabs, is always open and cannot be closed.

The Start Page gives useful information and tips intended to make working with Tajima DG16 by Pulse easier. The Start Page automatically connects to the Internet and downloads up-to-date information.

### Features on the Start Page:

- **New file:** Creates a new, untitled, design in a design window.
- **Open file:** Displays a Windows browser dialog, from which you can choose an existing design file to open.
- **Recent Files:** Displays the last four design files that were open. Click one of these design names to open the file.
- **Register:** Opens the Pulse registration page.

- **Community:** Opens the Pulse Community web page in your default browser. In the Pulse Community, you can read blogs and forums about the Pulse software, and join one of the groups.
- **Pulse Live Support:** Opens the Pulse Live Support page in your default web browser. Enter your name, email address, and telephone, and you can ask questions of the online support staff.
- **Free design:** Opens a new tab in the workspace, from which you can download a free embroidery design - a new design appears every week.
- **Pulse Today:** A new article appears daily, with information and hints to help you get the most out of your embroidery software.

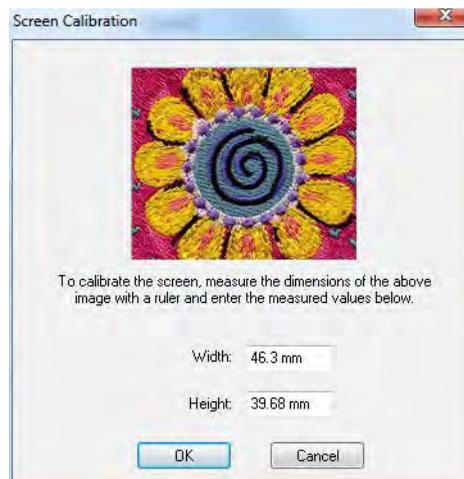
## Calibrating your Monitor Screen

Tajima DG16 by Pulse allows you to calibrate your monitor to display design dimensions

accurately. When you use the Back to 1:1  tool, the ruler measurements will be accurate and match the number of centimeters or inches that the design measures.

### To calibrate your screen:

- 1 Start Tajima DG16 by Pulse.
- 2 On the Ribbon, select the Tools tab.
- 3 Select the Calibrate Screen  tool
- 4 You see the Screen Calibration dialog.



- 5 To calibrate the screen, place a ruler against your monitor and measure the dimensions of the image shown in the dialog.
- 6 Do either of the following:
  - ♦ In the Width box, enter your width dimensions for the image shown.  
*The Height value changes proportionally to the width you entered.*
  - ♦ In the Height box, enter your height dimensions for the image shown.  
*The Width value changes proportionally to the height you entered.*
- 7 Click OK.





# CHAPTER 2

## Upgrading and Updating Tajima DG16 by Pulse

You can update or upgrade Tajima DG16 by Pulse with the Tajima DG16 by Pulse security device. If your computer system date is incorrect or does not match the date stored on the security device, you can easily reset your security device.

Tajima DG16 by Pulse allows you to add more embroidery fonts than the standard embroidery fonts installed as well.

*Topics covered in this chapter:*

- How to reset the date of your security device.
- Updating or upgrading to a higher Tajima DG16 by Pulse level.
- How to install additional embroidery fonts.

## About the Security Device

When you purchase Tajima DG16 by Pulse, you are sent a security device. The security device is an electronic key that allows you to use the level of software you have purchased. Without the security device, Tajima DG16 by Pulse will not work. The security device can be upgraded, or updated depending on the case.

## Resetting the Date for Security Devices

You will only be required to reset the date for security devices if you get an error message stating that "your system date is incorrect".

You need an authorization code to reset the date of your security device if your computer system date is incorrect and does not match with the date stored on the security device.

This code can only be provided by your distributor or Pulse software support personnel.

### To reset security devices:

- 1 After your distributor or support person has told you that you need to reset your security device date, open Tajima DG16 by Pulse.

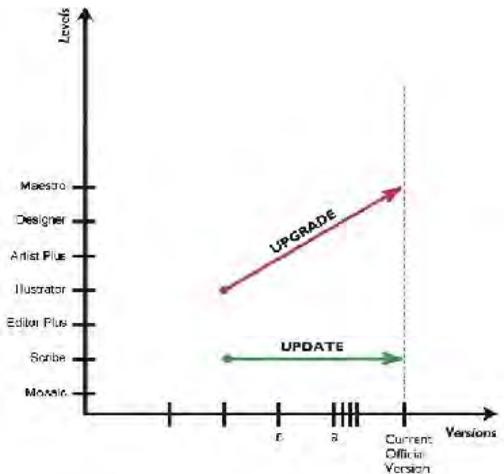


Do NOT click the Reset Date button unless you have an authorization code.

- 2 Choose Tools—Update Security Device.  
*You see the Update Security Device dialog box.*
- 3 Press Reset Date.  
*You see the Reset Security Device Date dialog box.*

- 4 In the Reset Date Authorization code box, enter the authorization code your distributor/support person has sent you.
- 5 Click OK.
- 6 Click Update.  
*The security device is updated.*
- 7 Restart Tajima DG16 by Pulse.

## Updating Versus Upgrading Security Devices



You upgrade Editor Plus to Artist Plus. When upgrading, you can use more Tajima DG16 by Pulse features of the same version. However, when you update an older version to the latest version available, the level of Tajima DG16 by Pulse Scribe stays the same.

### Updating security devices

You may need to update your security device when you receive the most recent version of the Tajima DG16 by Pulse level you currently own. For example, if you are presently using Tajima DG/ML by Pulse 14 Scribe, and want to start using Tajima DG16 by Pulse Scribe, you need to request an update from your distributor.

From your distributor, you will receive:

- The most current Tajima DG16 by Pulse CD.
- A \*.UPD update code sent to you via email labeled Security Device Update.

## Upgrading the security device

When you want to start using a higher level of Tajima DG16 by Pulse, you need to upgrade your security device. For example, if you are using Scribe and you want to purchase Designer, you need to upgrade your security device so that you will be able to use all the Designer features.

From your distributor, you will receive an \*.UPD update code sent to you via email or on a floppy disk labeled Security Device Update.

## Updating the Security Device

A security device update is sent to you from your distributor when you purchase new fonts or change the Tajima DG16 by Pulse level that you use.

If you received a new Tajima DG16 by Pulse CD or downloaded a new version of Tajima DG16 by Pulse from the Internet, install the new version before updating the security device.

### To update the security device:

- 1 Save the update file from your email message to your hard drive.
- 2 Start Tajima DG16 by Pulse.
- 3 Choose Tools—Update Security Device.  
*You see the Update security device dialog, displaying your security device number, system level, and available options.*



- 4 Click the Update... button.  
*You see the Select Update File dialog.*
- 5 Browse to the location of the update file (\*.UPD) and select it.
- 6 Click Open.  
*Tajima DG16 by Pulse replaces the contents of your security device with the update. A new dialog appears, notifying you that the update was successful.*



- 7 Click OK.  
*The Update Security Device dialog box now displays the level, options, and fonts of the update.*



The words "License verifies" must appear under the Update listing. If they do not, call your distributor because the file or the device may be corrupt.

- 8 (Optional) Click Examine to re-read the contents of your security device.
- 9 Click the 'x' to close the Update Security Device dialog.
- 10 Restart Tajima DG16 by Pulse to apply the update.

## Installing Additional Embroidery Fonts



Make sure you copy the fonts into the Tajima DG16 by Pulse Font folder. On the Tools tab, select User Settings—File Locations—Embroidery Font to confirm the Font folder location.

When you install Tajima DG16 by Pulse, a set of standard embroidery fonts is installed. If you would like to add more embroidery fonts to your embroidery font list, you need to purchase a font package from your distributor. Your distributor will then issue a security device update and then you can copy the font pack file to your Tajima DG16 by Pulse Font folder.

### To update your security device:

- 1 Start Tajima DG16 by Pulse.
- 2 Detach the update file from your email account and save it to your hard drive.



If you are interested in purchasing custom fonts, contact your distributor.

- 3 Choose Tools—Update Security Device.  
*You see the Update security device dialog box. It describes your security device level, available options and fonts.*
- 4 Click Update...
- 5 Browse to the location of the update file (\*.UPD) and select it.

- 6 Click Open.



The words “License verifies” must appear under the Update listing. If they do not, call your distributor because the file or the device may be corrupt.

*The dialog box now shows the new fonts in the update.*

- 7 Click Update.  
*Your security device is updated.*
- 8 Click Yes in the message box that appears.  
*You see a message notifying you that the update was successful.*
- 9 Click Examine to reread the contents of your security device.
- 10 Restart Tajima DG16 by Pulse.

### To install additional fonts:

- 1 Insert the Tajima DG16 by Pulse CD containing additional embroidery fonts into the CD-ROM drive.
- 2 Browse to the location you want to copy embroidery files.  
*The default font folder is C:\Program data\Tajima\DG16 by Pulse\Fonts.*
- 3 Double-click the folder.
- 4 Copy all embroidery fonts from the CD to this folder.



# CHAPTER 3

## Setting up Tajima DG16 by Pulse

Tajima DG16 by Pulse allows you to arrange toolbar in a way that suits your needs. To set up Tajima DG16 by Pulse you can change the location of folders installed with the software, the sewing order of two color lettering, and the settings for user preferences such as Company Name and Units of Measurement. Once Tajima DG16 by Pulse is set up to suit your needs, you will find learning the basic components of the software a lot easier.

*Topics covered in this chapter:*

- Choosing locations for various system folders.
- Changing the Tajima DG16 by Pulse user interface modes.
- Setting up your text sewing properties, workspace environment, and user preferences.
- Arranging toolbars in a way that best suits your needs.

# Setting up the Workspace Environment

The Tajima DG16 by Pulse workspace includes the toolbars, menus, and the design window containing the design you are editing. For more information on the design workspace, see "Understanding the Tajima DG16 by Pulse Workspace".



## Showing and Hiding Toolbars

You can hide or move a toolbar if it is blocking your view and cluttering the workspace. Toolbars can be moved anywhere on the screen. If you drag a toolbar to the edge of the design workspace, it attaches to the sides, top, or bottom edge of the workspace. You can arrange the toolbars in an order that is comfortable for you. You can also leave toolbars floating on your workspace.



To see the name of each tool on the various toolbars, simply move your pointer over the tools. A small Tool Tip box pops up and displays the tool name.

### To show or hide the toolbar:

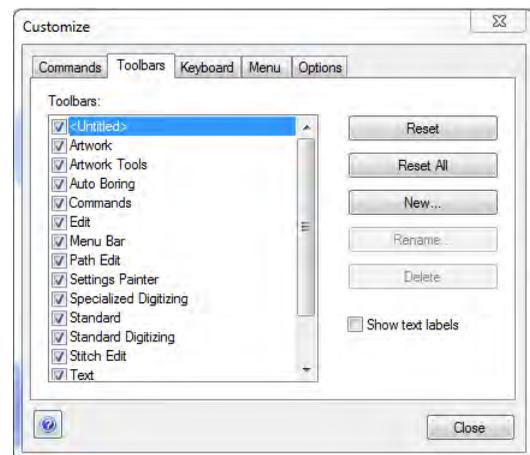
- 1 Choose the toolbar you want to show or hide from the Toolbars menu.  
*A check mark indicates that the toolbar is visible on your screen.*
- 2 To move the toolbars, drag the floating toolbar by its title bar or drag by the gray area around the buttons.

## Customizing Toolbars and Keyboard Shortcuts

You now have the ability to customize your Tajima DG16 by Pulse toolbars. This is done through the Customize dialog. On the Customize dialog, in the Commands tab, you can customize any toolbar that is open in the workspace, by dragging and dropping. Or, if you prefer, create your own completely new toolbars. The Customize dialog also allows you to create your own custom keyboard shortcuts, under the Keyboard tab.

### To open the Customize dialog:

- From the Menu bar, select Tools—Configuration—Customize.  
*You see the Customize dialog.*



## Customizing Tool Bars

### To customize a toolbar:

- 1 Open the Customize dialog.
- 2 Click the Commands tab of the customize dialog, to bring the Commands page to the front.
- 3 In the Categories column, select the category which contains the command you want to move.

*You see the corresponding list of tool buttons displayed in the Commands box (on the right).*

- 4 Move the command by clicking on it in the Commands box, and dragging over the toolbar you want to put it in



It is also possible to drag commands directly between already existing toolbars, if the Customize dialog is open. To move and copy a command, hold down **Alt** while dragging.

## Creating a New Custom Toolbar

You can also create completely new toolbars with the Customize Dialog, combining tools and commands as you wish.

### To create a new customized toolbar:

- 1 In the Customize dialog, select the Toolbars tab.  
*You see the Customize toolbars page.*
- 2 Click the **New** button.  
*You will see the Toolbar name dialog box.*



- 3 In this dialog, type in a name for the toolbar and click OK.

*A new, empty toolbar will now appear in the workspace.*

- 4 Drag and drop tools and/or commands into the new toolbar from the Commands list (under the Commands button).



You can also rename or delete a Custom toolbar from the Toolbars tab. However, standard Tajima DG16 by Pulse toolbars cannot be deleted or renamed.

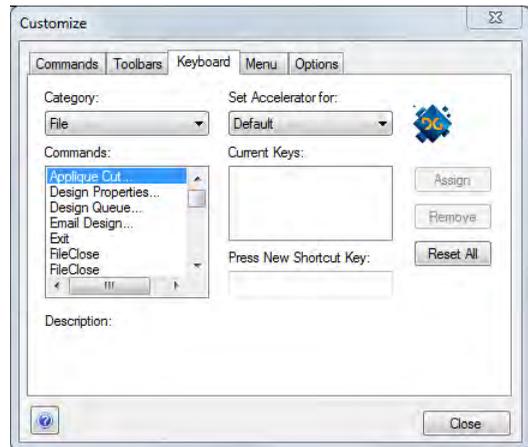
- 5 On the Customize dialog, click Close.

## Customizing Keyboard Shortcuts

Another useful feature of the Customize dialog is the option of assigning your own keyboard shortcuts. Keyboard shortcuts can be very useful for those tools that you use most often.

### To assign keyboard shortcuts:

- 1 Open the Customize Dialog, and select the Keyboard tab.  
*You see the Customize Keyboard dialog.*



- 2 From the “Categories” list, select the category containing the command you want.  
*The list of commands corresponding to that category appears in the “Commands” box.*
- 3 Select a command to which you would like to assign a shortcut.
- 4 In the “Press new shortcut key” field of the dialog, type the sequence of keys that you want to use; these keystrokes will appear in the field.



If there are two or more keys used in the shortcut, a plus sign (+) will be inserted between them, to indicate that they are to be used in combination. The (+) on your keyboard is not part of the shortcut sequence.

- 5 Click the **Assign** button to create the custom shortcut.  
*The shortcut sequence will be moved into the Current Keys field.*
- 6 Repeat steps 3 - 5 until you have created all the desired keyboard shortcuts.
- 7 On the Customize dialog, click **Close**.

## Showing and Hiding the Draw Ribbon

You can show or hide the draw ribbon. The draw ribbon tools control which parts of the design are drawn.



For more information on using Draw Ribbon tools, see “Draw Ribbon Tools”.

### To show or hide the draw ribbon tools:

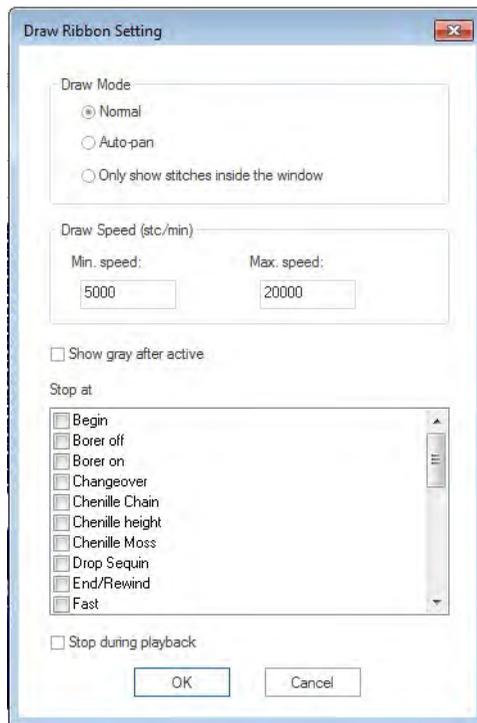
- On the Design toolbar, select the Draw Ribbon  tool.

## Customizing the Draw Ribbon

Tajima DG16 by Pulse makes it easy to customize draw ribbon settings.

### To customize the draw ribbon:

- 1 Click the draw ribbon mode setting  tool.  
*You see the Draw Ribbon Setting dialog.*



- 2 In the Draw Mode area, select one of the following draw modes:
  - ♦ **Normal.** All stitches in the design are drawn and the design window position remains fixed.
  - ♦ **Auto-pan.** All stitches in the design are drawn. While the design sews out, the system automatically pans the design each time it reaches the edge of the

window. This feature is useful if you want to zoom in and see stitches in more detail.

- ◆ **Only show stitches inside the window.** Only stitches displayed in the design window are drawn and the design window position remains fixed. Inside the design window, you will only see stitches being sewn for visible areas of the design. This feature is useful if you zoomed into a specific area and only want to have this area of your design drawn to save time.
- 3 To show the design as gray until the system sews each of its stitches in color, click Show gray after active.
  - 4 In the Draw Speed area, set the minimum and maximum speeds (in stitches per minute) that is used when simulating sewing. These limits determine the upper and lower limits of the speed control of the Draw Ribbon.
  - 5 In the Stop at area, select one or more machine commands you want the Play backward one color button and Play forward one color button to pause at as the design sews out. For example, you can enable the design to pause its drawing whenever it encounters a trim. If you do not select any commands, the design will pause at all color changes while drawing.
  - 6 Click OK.

## Rebuilding designs and icons



Icons are only built for PCH and PSF files.

Use the Rebuild Designs and Icons dialog to rebuild designs and icons from older versions of Tajima DG16 by Pulse for DOS if you are upgrading.

### To rebuild designs:

- 1 On the Ribbon, select the Processing tab—  
Rebuild  tool.

*You see the Rebuild Designs and Icons dialog.*



You can stop the rebuild at any time by pressing **ESC** on your keyboard.

- 2 In the Directory box, enter the path of the designs you want to rebuild.
- 3 Select one or more of the following options:
  - Generate stitches for Outline files.
    - ◆ Replace existing PSF files.
  - Create icons for PCH/PSF files.
    - ◆ Replace existing icons.
  - Create PXF files from KWK/PED files.
    - ◆ Replace existing PXF files.
  - Regenerate text segments.
  - Convert CND to PXF.
  - Convert EXP to PSF.
  - Convert EMB to PXF.
- 4 Click OK.
- 5 To see your rebuilt icons, choose File—  
Open.
- 6 Click Icons to view your designs.

## Assigning thread colors to imported artwork

Tajima DG16 by Pulse now allows you to assign specific thread colors to imported artwork segments. The assigned thread color will match the color of the imported artwork segment.

## To assign thread colors to imported artwork segments:

- 1 On the Ribbon, select the Tools tab—User Settings  tool.  
*You see the User Settings Property pages.*
- 2 Click Import Artwork.  
*You see the Import Artwork settings page.*
- 3 In the Add to Palette when Importing Artwork area, select one of the following:
  - ♦ **Never add to palette.** Imported artwork segment colors will never be assigned thread colors.
  - ♦ **Always add to palette.** Imported artwork segment colors will always be assigned thread colors. The Ask if number of colors exceeds options are only available when this setting is selected.
  - ♦ **Ask if number of colors exceeds.** When selected, you can enter a specific number of colors in the box. If the number of colors in your imported artwork segments exceeds the number of colors specified, a dialog box will appear asking if you want to add these colors to the palette.
- 4 Click OK.

## Changing User Settings

Using the pages of the User Settings dialog, you can change user preferences such as Language, Company Name, Cost Setting, and Units of measurement.

The various pages of the User Settings dialog will preset with a suite recommended settings when Tajima DG16 by Pulse is first installed.

- To change any of the User Settings, do one of the following:

- ♦ If the Ribbon interface is enabled, select the Tools tab—User Settings  tool.
- ♦ If the Ribbon interface is not enabled, on the menu bar, select Tools—Configuration—User Settings—Customize.

On this same toolbar menu, there is also a "Restore Recommended Settings" option. This allows the user to restore the settings in the "User Settings" dialog to the recommended setting if they have been altered by any user.

## To set user preferences:

- 1 On the Ribbon, select the Tools tab—User Settings  tool.
- 2 On the User Settings dialog, click Customize.  
*You see the User Settings property pages.*
- 3 Click the General heading to bring that page to the front.



- 4 Adjust any of the following settings:
  - ♦ In the Language field, select the language for Tajima DG16 by Pulse's menus and dialog boxes.

You need to restart Tajima DG16 by Pulse if you have selected another language. Also, you must have the proper \*.dll (document library) files to run the program in another language. Without these files, the program will not run in the language you choose.



- ◆ In the Company Name box, enter your company's name.
- ◆ In the Cost Setting area enter the cost per 1000 stitches you want to use.
- ◆ In the Default draw mode for entry tool list, select the default drawing mode you want to use when selecting entry tools for designs. (For more information on drawing modes, see “Using Paths—Drawing Lines”).)
- ◆ Select Save images in PXF files, if not already selected, to store loaded images in associated design \*.PXF files automatically. If this option is not selected, the design \*.PXF file will link to the loaded image stored separately on your hard drive.



When you save designs as \*.PXF, the “Save images in PXF files” option will also be available. Choose File—Save As.

- 5 Click OK.

## Environment Settings

The way many of your tools work, and the look of the workspace, is controlled by setting on the Environment and Environment—Display pages. These pages are found by going to the Tools tab on the ribbon and clicking the User

Settings  tool. You can change the look and functionality of your design workspace by changing these settings.

Tajima DG16 by Pulse installs with a set of default behaviors for the digitizing tools. However, it is possible to change some of these by way of the Environment pages in the Configuration dialog box.



Some of these settings may be particularly useful for digitizers who are accustomed to previous versions of the software, since they can be set so as to re-create the behavior of those versions - for example, the ability to complete segments with right-click, and to edit angle lines using the Select tool.

### To set up the workspace environment behaviour:

- 1 On the Ribbon, select the Tools tab—User Settings  tool.
- 2 On the User Settings dialog, click Customize.  
*You see the User Settings property pages.*
- 3 Click on Environment in the page list in the left column.  
*The Environment property page is displayed.*



- 4 In the **Autosave timer** field, enter the time interval at which files to be automatically saved.



Autosave saves the current file in the background, without notifying the user. The file that is saved by Autosave overwrites the previously saved file.

- 5 **Save Reminder:** Enter the number of minutes between reminders into the field. When enabled, this setting will cause a dialog to open periodically, asking the user to save the current file.



Entering 0 (zero) minutes into this field will disable the Save Reminder.

- 6 In the Mouse Wheel Behaviour list, select one of the following:
- ♦ **None.** Tajima DG16 by Pulse will ignore the mouse wheel.
  - ♦ **Scroll Up/Down.** Design window will scroll up or down. To scroll left or right, press and hold Ctrl on your keyboard while you scroll the mouse.
  - ♦ **Scroll Left/Right.** Design window will scroll left or right. To scroll up or down, press and hold Ctrl on your keyboard while you scroll the mouse.
  - ♦ **Zoom In/Out.** Design window will zoom in and out based on the location of the mouse. To zoom in or out from the center of the design window, press and hold Ctrl on your keyboard while you scroll the mouse.
    - ♦ **Swap Zoom Direction** (Zoom In/Out must be selected). When you select Swap Zoom Direction, the mouse wheel's zoom in and zoom out directions change. The design window will now zoom out when you scroll down with the mouse wheel.

- 7 Select one or more of the following settings:

- ♦ **Manual Start/Stop.** There are three options:
  - ♦ When Manual Start/Stop set to **On**, you must manually place the start and stop locations for each segment you create.
  - ♦ When it is set to **Off**, the start and stop locations for each segment you create will be placed automatically.
  - ♦ When **Off except for complex fill and satin** is selected, only those segment types will have the start and stop locations set automatically; all others will have to be placed manually.
- ♦ **Autofix Bowtie.** When you punch satin stitches using the Column or Enhanced Column tools, you may accidentally reverse the placement of points (also known as a “bow tie”).



**Sample of a bow tie**

When you select Autofix Bowtie, any “bow ties” that you create will automatically be corrected while you are Digitizing. The reversed points will be swapped.

For more information on the correct placement of points, see “Creating Satin or Fill stitches with the Column tool” or “Creating Satin or Fill stitches with the Enhanced Column tool.”



- ♦ **Activate Auto-panning.** When you select Activate Auto-panning, the system automatically pans for you when

- you reach the edge of the window while you are designing.
- ♦ **Automatically Reset Styles.** When you select Automatically Reset Styles, the software will automatically reset the style applied to a design or group of segments. You can easily apply a new style to the same design or segment group. If this setting is not selected, you will need to reset the style for a design or group of segments each time you want to apply a new style.
  - ♦ **Automatic Handles Display.** When you select Automatic Handles Display, you can view handles the majority of the time; however, the handles may disappear depending on the tool you use. For example, handles will be displayed in Outline mode since handles are an outline editing tool. When you are in Stitch mode, handles will disappear in order to make it easier to stitch edit. If this setting is not selected, you can manually control the display of handles and can press CTRL+Q on your keyboard to toggle handles on and off.
  - ♦ **Generate Icons when necessary.** When you select Generate Icons when necessary, icons will be displayed for each design format you load into the software.
  - ♦ **Save generated icons.** (Only available when the "Generate Icons when necessary" setting is enabled). When selected, enabled icon files are stored on your hard disk. This setting can speed up the display of icons; however, the icon files will take up space on the hard disk.
  - ♦ **Right-click to complete segments.** When checked, right-click will complete any segment during digitizing; otherwise, Enter will complete the segment (the default behaviour).
- ♦ **Edit angle lines with select tool.** When checked, this option makes angle lines visible and editable (i.e., end points can be selected and moved) while in Select mode.
  - ♦ **Enable outline selection with angle line tool:** Check to allow the Angle line tool to be used to select outline segments.
  - ♦ **Enable outline selection with vertex select tool:** Check to allow the Vertex select tool to be used to select outline segments.
  - ♦ **Auto start/stop when converting segments:** When a segment is converted to a different stitch type, the default behavior is apply the "closest connection" rule to the converted segment; that is, the start bead of the segment will be moved so that it is at the closest point to the stop bead of the previous segment in the sewing order. To disable this behavior, deselect this setting; when unchecked, the location of the start and stop beads of the converted segment will not be altered when the segment is converted.
- 8 Click OK.

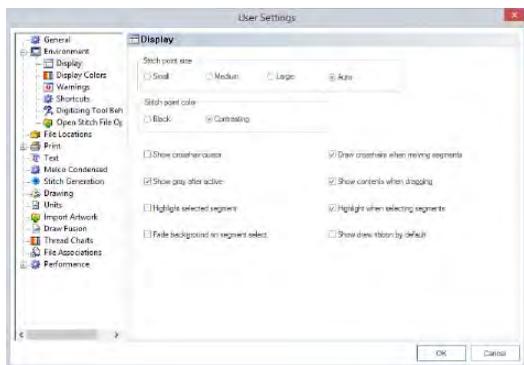
## Modifying the Display Environment

### To set up the workspace environment display:

- 1 On the Ribbon, select the Tools tab—User Settings  icon.
- 2 On the User Settings dialog, click Customize.  
*You see the User Settings property pages.*
- 3 Click the + sign next to the Environment page heading to expand the list of Environment pages.

#### 4 Click the Display heading.

You see the *Display settings page*.



#### 5 In the Stitch point size box, choose Large, Medium or Small.

#### 6 In the Stitch point color box, choose Black or Contrasting for the color of stitch dots. All stitch dots (stitch penetration points) in your design will be drawn in black or colors that contrast each segment.

#### 7 Select the check box beside one or more of the following optional settings:

- ♦ **Show crosshair cursor.** When you select Show crosshair cursor, you see full screen cross hairs while you work.
- ♦ **Draw crosshairs when moving segments.** Check to display full screen crosshairs when moving a segment or group of segments.
- ♦ **Show gray after active.** When you select Show gray after active, you see gray areas where you are not presently working.
- ♦ **Show contents when dragging.** When you select Show contents when dragging, you see the outline segments when you drag them around the workspace.
- ♦ **Highlight selected segment.** When this box is checked, selected segments will be highlighted.

#### ♦ **Highlight when selecting segment:**

Causes the segments in the design to become highlighted on mouse-over.

#### ♦ **Fade background on segment select:**

All unselected segments will be faded when a segment (or group of segments) is selected.

#### ♦ **Show Draw Ribbon by default.** The draw ribbon will always be displayed.

#### 8 Click OK to save the changes.

### To customize Display Colors settings:

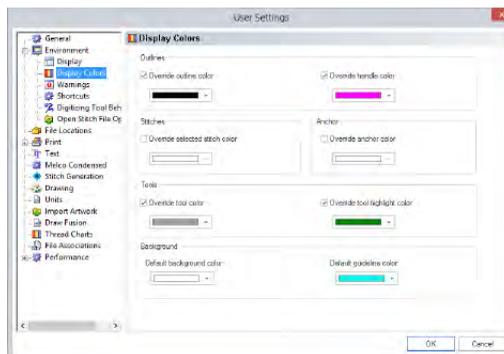
#### 1 On the Ribbon, select the Tools tab—User Settings icon.

#### 2 On the User Settings dialog, click Customize.

You see the *User Settings property pages*.

#### 3 Click the + sign next to the Environment page heading to expand the list of Environment pages.

#### 4 Click the Display Colors heading. You see the *Display Colors page*.



To override any of the default display colors, tick the corresponding box select it and open the color drop-down list to choose the desired color.

Override handle color



5 The different types of display colors that you can override are the following:

- ◆ **Override outline color.** When you check this box and select a predefined color, all outlines in your design will normally be drawn in the specified color.



When insert mode is on, the gray segments will still be shown in gray and not the color selected as the Override Outline Color.

- ◆ **Override handle color:** By default, the color of the frame handles (selection box) will be the same as the thread color of the selected segment. This setting allows you to choose a contrasting color, for clarity.
- ◆ **Override Selected Stitch Color.** When you check this box and select a predefined color, you will override the stitch color of all selected segments. Selected segments will be drawn in the specified color. When a selection contains two segments that are sequenced next to each other, the connection between them will also be drawn in the specified color.

When insert mode is on, the gray stitches will be shown in gray and not the color selected as the Override Selected Stitch Color.



When you view by color, all of the stitches in your design will be drawn in their actual color.

- ◆ **Override Anchor Color:** Determines the color used to highlight anchor points when a segment is selected.
- ◆ **Override Tool Color:** Determines the color that will be used for the anchors and lines of a segment as it is digitized with any of the digitizing tools.
- ◆ **Override tool highlight Color:** Determines the color that will be used to highlight control points (e.g., the "handles" that are used to control the shape of Bézier curves) when selected with the vertex select tool.
- ◆ **Default background color:** Click the down arrow to select the default background color of the workspace.
- ◆ **Default guideline color:** Use this setting to change the color of the workspace guidelines.

6 Click OK to save the changes.

## Warning Messages

You can control the display of stitch loss warning messages through the Configuration property pages. These settings determine the situations in which a warning message will appear.

### To set Warning Message behaviour.

- 1 On the Ribbon, select the Tools tab—User Settings  tool.  
*You see the User Settings property pages.*
- 2 Click the + sign next to the Environment page heading to expand the list of Environment pages.
- 3 Click on Warnings.  
*The Warnings settings page is displayed.*
- 4 In the Warning Messages area, select one or more of the following:
  - ◆ Show warning when stitch changes will be lost due to outline editing.

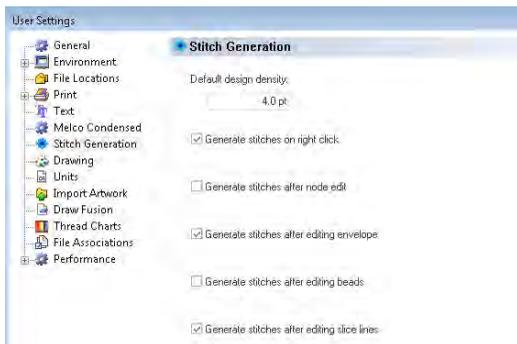
- ♦ Show warning when stitch changes will be lost due to Stitch to Outline Conversion.
- ♦ Show warning when stitches created by Stitch to Outline Conversion will be lost due to outline editing.
- ♦ Tell Me More. Click this button for more information on losing stitch edits and how to handle warning messages.

## Stitch Generation Settings

You can select system-wide settings such as Default design density and Generating stitches on right click.

### To set the stitch generation settings for your embroidery machine:

- 1 On the Ribbon, select the Tools Tab.
- 2 Click the User Settings  icon and select the Stitch Generation page.  
*You see the Stitch Generation page.*



- 3 Select one or more of the following settings:
  - ♦ In the **Default design density** box, enter the density value you want for the overall design.

- ♦ Select **Generate Stitches on Right Click** to generate stitches in your design after you right-click on or outside a segment.
- ♦ Select **Generate stitches after node edit** to automatically regenerate stitches after you edit anchor points. This option applies to any of the following actions:
  - ♦ Moving anchor points.
  - ♦ Changing the properties of an anchor point.
  - ♦ Adding and deleting anchor points
  - ♦ Splitting and joining anchor points.
  - ♦ Changing the distance between anchor points.
- ♦ Select **Generate stitches after editing envelope** to regenerate stitches in a selected segment automatically after you edit the segment's envelope handles. For more information on editing envelopes, see "Changing the shape of lettering using envelopes" and "Applying envelopes to segments".
- ♦ Select **Generate stitches after editing beads** to regenerate stitches in a selected segment automatically after you edit the segment's beads; for example, the segment's Angle Line, Start or Stop beads.
- ♦ Select **Generate stitches after editing slice lines** to regenerate stitches in the selected segment after editing the slice lines.

- 4 Click OK.

## Setting Units Preferences

You can choose the system of measurement that Tajima DG16 by Pulse will use through the User Settings—Units properties page.

**To set units:**

- 1 On the Ribbon, select the Tools tab—User Settings  tool.
- 2 On the User Settings dialog, click Units.
- 3 You see the Units property page.
- 4 In the Units of measurement area, select Metric or Imperial as your unit of measurement.
- 5 In the Embroidery Settings Units area, select Millimeters, Points or Inches to set the units used for stitch length and pull-compensation values. This feature is useful if you prefer to use different units of measurement for stitch length versus pull-compensation.
- 6 In the Units of Density area, select Millimeters, Points or SPI (Stitches per Inch) as your unit of density value.

## Changing the Location of System Folders

When you install Tajima DG16 by Pulse, it creates folders to store designs, artwork, embroidery fonts, fabric background files, Carved Tile patterns, Programmed Fill patterns, hoop files, and so on. You can change the location of various folders by changing the paths.

**To change the location of system folders:**

- 1 On the Ribbon, select the Tools Tab.
- 2 Click the User Settings  icon and select File Locations.  
*You see the File Locations page.*
- 3 Under the appropriate folder name box, enter a new folder location.
- 4 Click OK.

## Text User Settings

There are a very large number of fonts available in Tajima DG16 by Pulse. To save time scrolling through the list when selecting a font, there is setting that allows you to display only the list of new-style fonts in the Font field of the Properties Panel.

**To select which fonts to display:**

- 1 On the Ribbon, select the Tools Tab.
- 2 Click the User Settings  icon and select Text.  
*You see the Text property page.*
- 3 In the Font Types area, click the corresponding radio button to select one of the following options:
  - ♦ Click **Display all fonts** to show both old and new styles.
  - ♦ Click **Hide old fonts** to display only the new-style fonts.
- 4 Click OK.  
*The list of fonts will be adjusted accordingly.*

## Changing Performance Settings

### Renderer Performance

Within the User Settings panel, you can control the settings of the video display performance. You are able to switch from the default display renderer to Microsoft 2D.



Microsoft 2D is available on the Windows 7 operating system only.

Also, on the Performance settings you are able to turn image anti-aliasing on and off. Anti-aliasing is an image-enhancement effect, which smooths out the jagged edges on images in the design window.

To turn anti-aliasing on, select the Tools tab—

User Settings  and then click Customize. then select Performance–Renderer and under “Enable Anti-aliasing” field, select Yes.

## Multicore Processing

For users with computers with multiple cores, Tajima DG16 by Pulse can share calculations across two or more cores. By default, it will use as many of the cores as are appropriate for the current process (for example, segment regeneration will use as many cores as are available).

To restrict the number of cores that Tajima DG16 by Pulse will use at once, you can specify the number of cores that will be made available for the program to use.

### To change the number of available cores:

- 1 On the Ribbon, select the Tools Tab.
- 2 Click the User Settings  icon.  
*You see the User Settings page.*
- 3 Click the + sign next to the Performance page, and select Multicore.  
*You see the Multicore User Settings page.*
- 4 Click the Manual button.
- 5 Enter the desired of cores to use in the “Maximum number of cores” box.

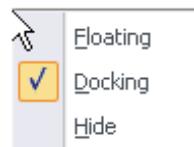
## Adjusting Panels in the Workspace

The Panels in the Workspace (such as the Stitch List, the Sequence View, the Properties Panel, and so on) can now be arranged into whatever configuration you wish; you can “float” them above the workspace, in which case they can be move anywhere on your desktop; you can hide them when they are not needed; or you can undock them from their current positions and dock them elsewhere.

You can also combine panels together by “tabbing” them; you do this by floating a panel in front of another panel and then docking it to that panel with the tab  button.

### To float a docked panel:

- 1 Right-click on the panel’s title bar (the grey area at the top of the panel, which contains the panel’s name).  
*You will see a menu of options.*



- 2 Select Floating from this menu.  
*The panel now floats above the workspace; you can drag and place it anywhere on your screen.*

To re-dock the panel to the same location it was originally, you can just right-click the title bar again and select “Docking” from the menu; the panel will immediately go back to the former location.

To dock it elsewhere, follow the steps under “To dock a floating panel.”

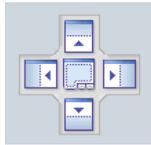


## To hide a panel:

- 1 Right-click on the panel's title bar.  
*You will see a menu of options.*
- 2 Select Hide from this menu.  
*The panel will no longer be visible.*  
*To show the panel again, go to the menu bar, click the Tool Bars menu, and then click on the name of the panel that you wish to show.*

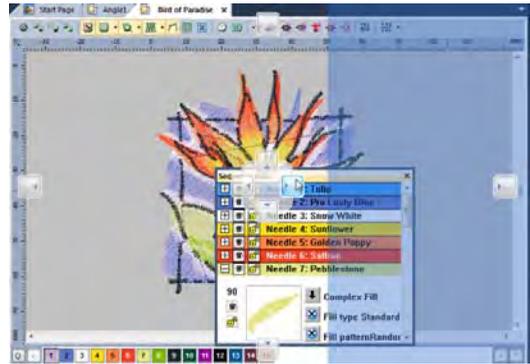
## To dock a floating panel:

- 1 Left-click the panel's title bar and drag it a short distance, continuing to hold down the mouse button.  
*You will see a set of arrow buttons displayed in the workspace. Five of them (four arrows plus the tab button) form a cross shape, like this:*



*There will also be four isolated arrow buttons, like this , pointing at the four sides of the main window.*

- 2 Do one of the following:
  - ♦ To dock to the sides of a frame, drag the cursor over one of the arrow buttons in the cross.  
*A shaded area will appear, previewing the position that the floating panel will dock.*  
*In the instance shown below, the Sequence View is positioned to be docked to the left of the workspace.*



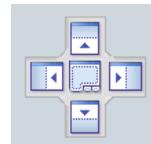
- ♦ To dock to the top, bottom, left or right sides of the overall workspace window, drag the cursor over the corresponding isolated arrow button.
- 3 Release the mouse button.  
*The floating panel will now be docked to the selected location.*

## To create a tabbed panel:



You can only create a tabbed panel from a panel that is currently "floating"; if you wish to tab a docked panel, first right-click on the heading bar and select Floating from the context menu.

- 1 Left-click the panel's title bar and drag it over the panel that you wish to tab it with.  
*You will see a set of arrow buttons displayed in the workspace. Five of them (four arrows plus the tab button) form a cross shape, like this:*



- 2 Move the cursor over the tab  button in center of the "cross".

**3** Release the mouse button.

*The floating panel will now appear as a tab at the bottom of the selected panel.*

# CHAPTER 4

## Using Machine Formats

When you open or save designs in Tajima DG16 by Pulse, you can select a specific machine format for your design file. Every machine format has its own profile settings that determine how embroidery information will be interpreted when you save design files or send design files to the machine through cable. Machine Formats affect how Tajima DG16 by Pulse creates stitches. By selecting the correct settings, you can optimize a design for a specific embroidery machine.



Only advanced users should modify profile settings and properties for machine formats.

### *Topics covered in this chapter:*

- Creating, changing and deleting machine format properties for a design.
- Modifying color, trim, chenille and borer settings for machine formats.

## Machine Formats Introduction

All designs in Tajima DG16 by Pulse have a machine format. When you create a new design file or open an existing design file, you can select the machine format for a design. The selected machine format can change how the design file is read. Some file formats require a specific machine format to be selected. When you save a design file, you can select a different machine format or change your settings in order to optimize the design's stitches for a different machine.



When designs are saved, Pulse Embroidery Files (\*.PXF) store the machine format for the design.

You can also change a design's machine format by choosing File—Design Properties to view or modify the design properties.

## Machine Format Properties

Machine formats have their own profile settings that determine how embroidery information will be interpreted when you save design files or send design files to the machine through cable. When you use machine formats, your design information displays accurately on the screen and designs are sewn correctly on each embroidery machine.

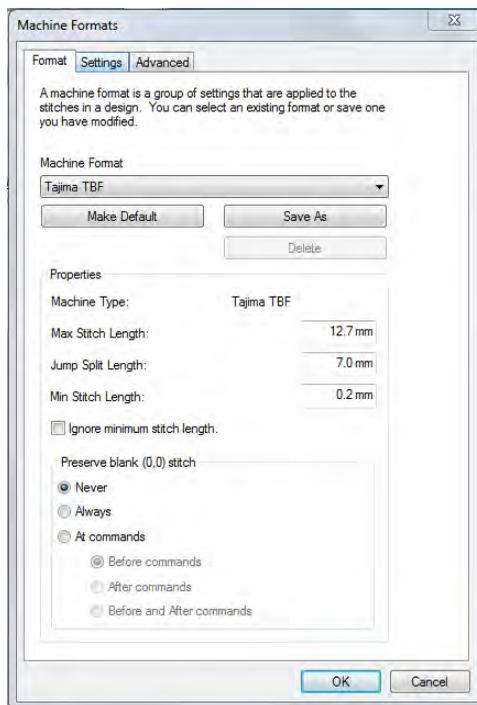
Tajima DG16 by Pulse allows you to change basic machine format properties, delete machine formats, and create new machine formats. You can modify these settings when in the Open, Save, or Save As dialogs.

## Changing Basic Machine Format Properties

You can modify basic machine format properties in the Machine Format dialog.

### To change machine format properties:

- To open the Machine Formats dialog, do the following:
  - On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - On the right side of the Machine Format field, check the option button .  
*You see the Machine Formats dialog.*
- On the Machine Formats dialog, select the Settings tab.
- Click the Format tab.  
*You see the Format property page.*



- 4 Select any of the following settings:
  - ♦ In the Machine Format list, select the machine format you want applied to the stitches in a design.



You should choose the machine format that will be used while making designs for your customers. By doing so, you will have a more accurate stitch count on screen and for print outs.

- ♦ Click Make Default to make the selected machine format the default option for all designs. When you make a machine format the default, it is a permanent change and will remain the default machine format the next time you open the software.
- ♦ In the Max Stitch Length box, enter the maximum stitch length for designs created with the machine format selected (measured in 0.1mm (1 pt)).
- ♦ In the Jump Split Length box, enter the jump split length for designs created with the machine format selected. If stitches are longer than the maximum stitch length value specified, the stitch will be split into one or more jumps and a stitch. The maximum length of each split jump will be the jump split length value.  
Measured in 0.1mm (1 pt).
- ♦ In the Min Stitch Length box, enter the minimum stitch length for designs created with the machine format selected. All stitches less than this minimum stitch length value will be omitted from the design and stitching will proceed as normal.  
Measured in 0.1mm (1 pt).
- ♦ Select Ignore minimum stitch length to ignore the minimum stitch length value specified.

- 5 Click OK.

## Deleting Machine Formats

If you create new embroidery machine formats, you can delete them at any time.



All standard machine formats can not be deleted.

### To delete machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ♦ On the right side of the Machine Format field, check the option button .  
*You see the Machine Formats dialog.*
- 2 Select the Format tab.  
*You see the Format settings page.*
- 3 In the Machine Format list, select the machine format you want to delete.
- 4 Click Delete.
- 5 Click OK.

## Creating New Machine Formats

You can modify the standard machine formats that ship with Tajima DG16 by Pulse and save the formats as new machine formats.

Editing a machine format applies to the current design. Saving an edited machine format allows you to apply the format to other designs.

### To create a new machine format:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.

*You see the Design Properties panel.*

- ♦ On the right side of the Machine Format field, check the option button .

*You see the Machine Formats dialog.*

- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Format property page.
- 4 Click Save As.

*You see the Save As dialog box.*

- 5 In the Save As box, select the folder on your hard drive where you want to save the new machine format permanently.



It is a good idea to save new machine formats in the default directory folder: Program Data\Tajima\DG16 by Pulse\Formats.

- 6 In the File Name box, enter a filename for the new machine format.
- 7 In the Save as Type list, select the machine format file type.
- 8 Click Save.

## Removing Short Stitches Automatically from Designs

Tajima DG16 by Pulse allows you to automatically remove short stitches from your designs that can cause unnecessary thread breaks. For most machine formats, Tajima DG16 by Pulse will automatically remove stitches shorter than 5 pts (0.5mm). The machine format can be selected when you create a new design, a design is opened, saved, saved as, or by selecting File—Design Properties.

### To clean short stitches from designs:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.

*You see the Design Properties panel.*

- ♦ On the right side of the Machine Format field, check the option button .

*You see the Machine Formats dialog.*

- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Format property page.
- 4 In the Min Stitch Length box, enter the minimum stitch length for designs created with the machine format selected. All stitches less than this minimum stitch length value will be removed from the design and stitching will proceed as normal. Measured in 1 pt (0.1mm).
- 5 Select Ignore minimum stitch length to ignore the minimum stitch length value specified.
- 6 Click OK.

## Machine Format Settings

You can make specific changes to machine format settings within Tajima DG16 by Pulse. You can modify color changes, trims, start and end codes, and stop settings for each machine format. When you generate stitches, our software uses these design properties for the specified machine.

## Changing Color Settings for Machine Formats

You can modify how the color changes in your design will be handled on your embroidery machine.

### To change color settings for machine formats:

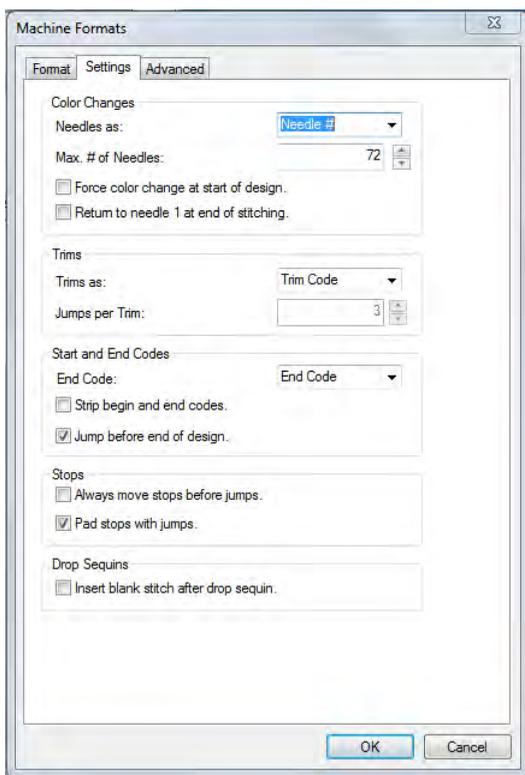
- 1 To open the Machine Formats dialog, do the following:

- ◆ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
- ◆ On the right side of the Machine Format field, check the option button .

*You see the Machine Formats dialog.*

- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Settings tab.

*You see the Settings property page.*



- 4 In the Color Changes area, select any of the following color change settings for the selected machine format:
  - ◆ In the Needles as list, select how you want color changes encoded in a design. For example, Tajima machines

use stops to indicate color changes. If you select Needle # from the Needles as list, you should enter a Max. # of Needles value as well.



In the Color Changes area, the Needles as list will change based on the specified machine.

- ◆ In the Max. # of Needles, enter the maximum number of needles to be used. Needles in the design that exceed the maximum number of needles, will start counting again at needle 1. Different embroidery machines may have different needle numbers.
  - ◆ Select Force color change at start of design. If you select Needle # from the Needles as list, the machine will change to the first needle of the design. If you select Stops from the Needles as list, the machine will add an additional stop to the beginning of the design.
  - ◆ Select Return to needle 1 at the end of stitching. If you select Needle # from the Needles as list, the machine will change back to the first color at the end of the design. If you select Stops from the Needles as list, the machine will place a stop at the end of the design.
- 5 Make any other necessary changes to your machine format settings.
  - 6 Click OK.

## Changing Trim Settings for Machine Formats

Tajima DG16 by Pulse allows you to specify how the trims within your design should be handled on specified machines.

### To change trim settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ◆ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ◆ On the right side of the Machine Format field, check the option button .

*You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Settings property page.
- 4 In the trims area, select any of the following trim settings for the selected machine format:
  - ◆ In the trim as list, select how you want your design trimmed, based on the selected machine.



In the trims area, the trim as list will change based on the specified machine.

- ◆ In the Jumps per trim box, select the number of jumps needed to create a trim on the embroidery machine. This option only applies when you select jump in the trim as list.
- 5 Make any other necessary changes to your machine format settings.
  - 6 Click OK.

## Changing Start and End Code Settings for Machine Formats

Tajima DG16 by Pulse allows you to change the Start and End Code settings for each machine format. Start and End Codes are codes that tell the embroidery machine when a design starts and ends.

### To change start and end code settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ◆ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ◆ On the right side of the Machine Format field, check the option button .

*You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Settings property page.
- 4 In the Start and End Codes area, select any of the following start and end code settings for the selected machine format:
  - ◆ In the End Code list, select the type of End Code required for the selected machine.
  - ◆ Select Strip begin and end codes when opening a design. This setting removes beginning and end codes from a design, if present.
  - ◆ Select Jump before end of design to include a jump at the end of a design rather than including a stitch at the end of a design. This setting only applies to selective machines.
- 5 Make any other necessary changes to your machine format settings.
- 6 Click OK.

## Changing Stop Settings for Machine Formats

You can modify how the stops within your design should be handled on specified machines.

### To change the stop settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ♦ On the right side of the Machine Format field, check the option button .
  - You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Settings property page.
- 4 In the Stops area, select any of the following stop settings for the selected machine format:
  - ♦ Select Always move stops before jumps to ensure commands occur before movements in a design, otherwise commands may occur after movements.
  - ♦ Select Pad stops with jumps to insert a jump, with no movement, before each stop.
- 5 Make any other necessary changes to your machine format settings.
- 6 Click OK.

## Advanced Machine Format Settings

Tajima DG16 by Pulse allows you to also make changes to advanced machine format settings, such as chenille, borer, changeover, and penetration style settings.

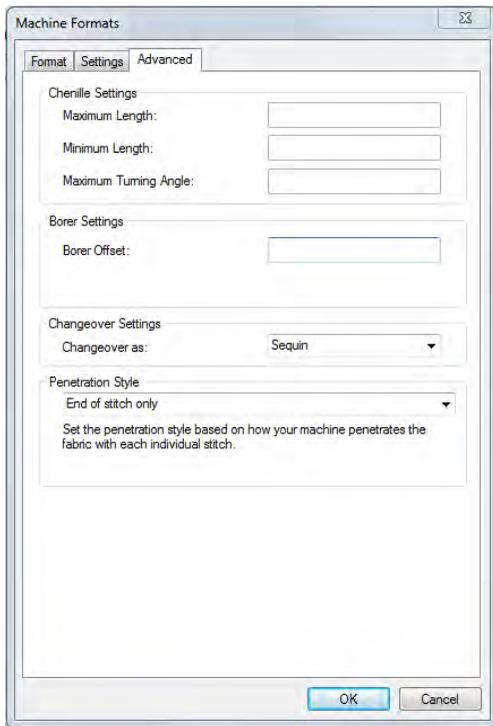
### Changing Chenille Settings for Machine Formats

Chenille is a type of embroidery in which a loop stitch is formed on the topside of the fabric and created by a stitch machine that has been adjusted to form this stitch type.

If a machine format supports chenille, you can change chenille settings.

### To change chenille settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ♦ On the right side of the Machine Format field, check the option button .
  - You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Advanced tab.  
*You see the Advanced property page.*



- 3 In the Chenille Settings area, select any of the following chenille settings for the selected machine format:
  - ◆ In the Maximum Length box, enter the maximum length for chenille stitches.
  - ◆ In the Minimum Length box, enter the minimum length for chenille stitches.
  - ◆ In the Maximum Turning Angle box, enter the maximum turning angle for chenille stitches. The maximum turning angle for chenille stitches must be between 100 and 180. If you choose a value outside of this range, the turning angle will be forced to 120.
- 4 Make any other necessary changes to your machine format settings.
- 5 Click OK.

## Changing Borer Settings for Machine Formats

Boring is a production process in which a sharp-pointed instrument or laser punctures, or bores, the fabric. This is followed by stitches inserted around the opening to enclose the raw edges, while leaving a bordered hole.

Tajima DG16 by Pulse allows you to change borer settings for various embroidery machine formats.

### To change borer settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ◆ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.
  - You see the Design Properties panel.*
  - ◆ On the right side of the Machine Format field, check the option button .
  - You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Advanced tab.
- You see the Advanced settings.*
- 3 In the Borer Settings area, do the following:
  - ◆ In the Borer Offset box, enter the distance of the borer offset. Measured in 0.1mm (1 pt).
- 4 Make any other necessary changes to your machine format settings.
- 5 Click OK.

## Adjusting Changeover Settings for Machine Formats

In the Machine Formats dialog, you can set how changeovers should be handled on specified embroidery machines. Depending on the machine format selected, you can modify changeovers as borer, laser borer, sequin or changeover settings accordingly.

### To change changeover settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ♦ On the right side of the Machine Format field, check the option button .
  - You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Advanced property page.
- 4 In the Changeover Settings area, complete the following:
  - ♦ In the Changeover as list, select one of the following settings:
    - ♦ Laser Borer
    - ♦ Borer
    - ♦ Sequin
    - ♦ Changeover



Sequin Codes are only supported by specific formats.

- 5 Make any other necessary changes to your machine format settings.
- 6 Click OK.

## Changing the Needle Penetration Style Settings for Machine Formats

When you create designs in Tajima DG16 by Pulse, you can modify the design's needle penetration settings for various machine formats. You must set the needle penetration style based on how you want specified machines to penetrate the fabric with each individual stitch.

### To change penetration style settings for machine formats:

- 1 To open the Machine Formats dialog, do the following:
  - ♦ On the Menu bar, select View—Toolbars and Docking Windows—Design Properties.  
*You see the Design Properties panel.*
  - ♦ On the right side of the Machine Format field, check the option button .
  - You see the Machine Formats dialog.*
- 2 On the Machine Formats dialog, select the Settings tab.
- 3 Click the Advanced property page.
- 4 In the Penetration Style list, select one of the following penetration styles for the selected machine format:
  - ♦ End of stitch only
  - ♦ Beginning and end of stitch
  - ♦ Compatibility mode (either)
- 5 Make any other necessary changes to your machine format settings.
- 6 Click OK.

## Note

If you are uncertain of the penetration style to use for your design, read the following:

- If you have an extra drop stitch in your design, select End of stitch only as the penetration style.
- If you have a stitch missing in your design, select Beginning and end of stitch as the penetration style.
- If you are not sure about what penetration style to use, select Compatibility mode (either) as the penetration style.



# CHAPTER 5

## Learning the Basics

Before you start using the software, we recommend that you understand the Tajima DG16 by Pulse design workspace and learn a few of the basic components outlined in this section.

Tajima DG16 by Pulse allows you to change the design properties and thread colors in your design, as well as add personal notes about designs. You can open existing designs or create new designs. Adding new thread colors to a custom thread chart and creating custom color palettes for designs are just a few of the ways you can use Tajima DG16 by Pulse to work with threads.

*Topics covered in this chapter:*

- Basic essentials, such as how to create and alter designs and set up design worksheets.
- All the tools on the various tool bars.
- How to create guidelines.
- How to measure designs with the ruler tool.
- How to print designs.

## The Workspace

The Tajima DG16 by Pulse workspace contains several areas. The image below displays the Tajima DG16 by Pulse workspace.



## Title Bar

The Title Bar appears at the top of the Tajima DG16 by Pulse design window and the top of a minimized design workspace. When you open a design, the design's name, recipe (style), machine format settings, and design information are displayed here. The number of thread colors in a design as well as its stitch count are automatically updated in the title bar. A design's stitch count is consistent with the stitch count printed or sewn out using the specified machine format settings.



For more information on Machine Formats, see "Using Machine Formats".

## Status Bar

The Status Bar appears at the bottom of the Tajima DG16 by Pulse design window. On the left-side of the status bar, the color palette shows the thread colors used in the active design. You will also find specific design

information in other areas of the status bar. For example, the status bar shows the design dimensions of the active segment or stitch, the Bezier entry modes, the scale of zoom, the names of segments, etc.

## Statistics Bar

The Statistics bar gives you a quick overview of certain information about the your software, and the current design file. It shows the design's recipe, the selected machine format, the density, the number of colors used, number of stitches, and the overall dimensions (width and height). It also lists the level of Tajima DG16 by Pulse that you have activated.

To show and hide the Statistics bar, select View—Statistics Bar.

## Ribbon

The Ribbon appears along the top edge of the workspace, by default. It is a compact way to invoke many of the common DG16 by Pulse menu items and properties. When open, the Ribbon takes the place of the Menu bar items in Tajima DG16.

The Ribbon tabs include the following:

**File:** Includes common commands like Open, Save, Save As, Print, Merge file, etc.

**Manage:** Under this tab are found a set of icons that open all the “manage”-type tools, for example the Font manager, the Programmed patterns manager, the Thread Chart manager, and so on.



**View:** Includes those tools and commands that are concerned with the appearance and arrangement of the workspace - for example showing and hiding the toolbars, docking windows.



The Ribbon is context-sensitive, which is to say, the tabs you see on it will change depending on what kind of segment is selected. For example, whenever a new file is opened, the Design Properties tab will appear on the ribbon.



The ribbon also changes to show the properties of the selected segment; for example, if a piece of text is selected, it will display fields showing the text string, the font, and other properties. If an artwork segment is selected, on the other hand, it will show the Edit tools, Shape tools, Applique fabric setting, and so on.



For an overview of the editing and shape tools on the Ribbon—Artwork, see the tables under “Artwork Edit tools” and “Shape Artwork tools”, later in this chapter.

## Menu Bar

By default, the Menu Bar will not be visible, and its functions will be found on the Ribbon. You can show the menu bar by way of the user settings dialog. Go to Environment—Display, and uncheck the “Use ribbon interface” box.

When enabled, the Menu bar appears at the top of the workspace, just underneath the Title Bar. The Menu Bar contains a list of menus specific to Tajima DG16 by Pulse.



The Librarian menu will only appear to customers who purchase Librarian.

## Tajima DG16 by Pulse Tools

Tajima DG16 by Pulse has many tools available in the Toolbar, and in the Selection Setting pages of the Properties panel. The following charts describe the tools specific to Tajima DG16 by Pulse. Depending on the system level, you may not have all the tools shown.

## Design Toolbar

Tool	What it means
	<b>Segment Filter:</b> Hides outline segments by thread numbers or by stitch types. You can create custom filters.
	<b>Hide selected segments:</b> Shows only unselected segments in the design window.
	<b>Hide unselected segments:</b> Shows only selected segments in the design window.
	<b>Show all hidden segments:</b> Shows all hidden segments in the design window.

Tool	What it means
	<b>Show Commands:</b> Shows symbols at the locations on the design where the embroidery machine performs commands, such as stop, trim, and changeover.
	<b>Show Dots:</b> Shows the stitch penetrations represented by a black dot.
	<b>Show Beads:</b> Shows start, stop, and angle line beads.
	<b>Show Stitches:</b> Shows the stitches of segments in the workspace (default setting).
	<b>Show outlines.</b> Shows the outlines of segments in the design window (default setting).
	<b>Show Grid:</b> Shows a background grid to help you align anchor points or measure a design.
	<b>Hides/shows the draw ribbon:</b> Hides or shows the design draw ribbon.
	<b>Show 3-D Stitches:</b> Use to provide a realistic view of your design and give a better idea of how stitches will look.
	<b>Move by 1:</b> Use to move backward or forward through a design by 1 unit (segment or stitch). Left-click the tool to move backward through the design by 1 unit. Right-click to move forward, by 1 unit, from the currently selected stitch or segment.
	<b>Move by 10:</b> Use to move backward or forward through a design by 10 units (segment or stitch).
	<b>Move by 100:</b> Use to move backward or forward through a design by 100 units (segment or stitch).
	<b>Move by 1000:</b> Use to move backward or forward through a design by 1000 units (segment or stitch).
	<b>Move to Previous/Next Command:</b> (Only available in Stitch Mode). Use to move the stitch select pointer to the previous or next command in a design.

Tool	What it means
	<b>Move to Previous/Next Color:</b> Use to change the selection to the previous or next color change in the design.
	<b>Move to Start/End:</b> Use to move to the start or end of the design.
	<b>Range Select:</b> Highlights stitches or segments as you navigate through your design.
	<b>Convert:</b> Use to convert lettering to segments or segments to other stitch types.

## Draw Ribbon Tools

Draw Ribbon tools make it easy to see how your design will sew out on-screen. You can use the Draw Ribbon tools to eliminate potential sewing problems.

When you choose View—Draw Ribbon, the draw ribbon tools (scrollbar slider, sewing simulator, and draw ribbon mode setting) will appear on the ribbon of the design window.

The draw ribbon controls which parts of the design are drawn. You can draw stitches while the draw bar is active, as well as commands and stitch dots when turned on.



When the draw ribbon is active, you can not draw a full screen crosshair, selection box, outlines or beads.

## Scrollbar Slider



The length of the scrollbar slider represents all of the stitches in the opened design. You can move the scrollbar slider by dragging it to see a design as it will look sewn to a particular point. The color display within the scrollbar indicates the thread color that will be sewn when the scrollbar slider is positioned over it.

Clicking on the arrows at the ends of the scrollbar will advance or retrace the design position by one stitch.

## Sewing Simulator



The sewing simulator allows you to watch your design draw on a stitch-by-stitch basis, simulating the sewing action of your machine. You can use the control buttons and slide the speed control to vary the rate of sewing.

## Draw Ribbon Mode Setting

The draw ribbon mode setting  tool allows you customize draw ribbon commands to suit your needs. You can select various drawing modes, show segments as gray after being active and select commands that the sewing simulator buttons will stop at.

## Using Draw Ribbon Tools

The following table explains how to use the draw ribbon tools in more detail:

Tools	What is does
	<b>Play backward one stitch:</b> Move backward in the design by one stitch.
	<b>Scrollbar slider:</b> Drag the scrollbar slider to advance the design to a specific position. When the scrollbar slider is positioned over a color, you see the specified thread color being sewn in the design. The entire length of the scrollbar slider represents the entire design.
	<b>Play forward one stitch:</b> Move forward in the design by one stitch.

Tools	What is does
	<b>Play backward one color:</b> Move backward in the design to the beginning of the previous color or selected command.
	<b>Play backward:</b> Move backward through the design.
	<b>Pause:</b> Pause the design while drawing. When you play or resume sewing your design, stitching will continue from the location of the last stitch.
	<b>Stop:</b> Stop the design while drawing.
	<b>Play forward:</b> Move forward through the design.
	<b>Play forward one color:</b> Move forward in the design to the beginning of the next color or selected command.
	<b>Speed Control:</b> Slide the speed control to vary the rate of sewing.
	<b>Draw ribbon mode setting:</b> Use these settings to customize draw ribbon commands. You can select draw modes, show segments as being gray after being active or select commands that sewing simulator buttons will stop at.

## File

Tool	What it means
	<b>New:</b> Creates a new untitled design.
	<b>Open:</b> Opens an existing design file.
	<b>Save:</b> Saves designs in a variety of file formats.
	<b>Merge Design:</b> Merges existing design file with another design file.
	<b>Output to Disk:</b> Outputs the current design to an embroidery disk or machine.

Tool	What it means
	<b>Cut</b> : Cuts the selection and copies it to the clipboard.
	<b>Copy</b> : Copies the selection to the clipboard.
	<b>Paste</b> : Pastes the clipboard contents at the insertion point.
	<b>Print</b> : Prints the active design file.
	<b>Print Preview</b> : Open the design as a printable worksheet.
	<b>Contents</b> : Opens the online help window.

## Select Tools

	<b>Select</b> : Selects outline segments.
	<b>Lasso Select</b> : Selects one or more outline segments to edit (with a polygon).

## Stitch Select

Tool	What it means
	<b>Stitch Select</b> : Selects stitches.
	<b>Lasso Stitch Select</b> : Selects a group of stitches to edit (with a polygon).
	<b>Delete Stitch</b> : Deletes one stitch at a time in design files.

## Steps

Tool	What it means
	<b>Undo</b> : Reverses your last action.
	<b>Redo</b> : Reverses the action of the Undo command.
	<b>Repeat</b> : Click to repeat the last action performed.

## Machine

Tool	What it means
	<b>Output to Machine</b> : Sends design to machine
	<b>Design Queue</b> : Opens the Design Queue Manager dialog.
	<b>Machine Status</b> : When enabled, opens the Data collection window .
	<b>View reports</b> : Opens the Data Collection and Reporting dialog box.

## Path Edit

Tool	What it means
	<b>Add Anchor</b> : Inserts a new anchor point onto a selected outline segment.
	<b>Angle Lines</b> : Adds and moves angle lines.
	<b>Slice Lines</b> : Adds and moves virtual slice lines.
	<b>Density Line</b> : Automatically adds a density line to the selected complex fill segment, allowing you to create variable density within the segment.

Tool	What it means
	<b>Stitch Length:</b> Use to add beads, set density value, and set the profile for variable-density Run segments.
	<b>Wave line:</b> Use this tool to add wave lines to a complex fill with the Wave fill type.
	<b>Erase Outline:</b> Deletes one outline point at a time in design files.
	<b>Set Start/End:</b> Sets start and end points for machine.

## Node Edit:

	<b>Vertex Select:</b> Selects points and individual outline segments, allowing for advanced Bezier editing.
	<b>Edit Envelope:</b> Selects the corners of the segment's envelope, allowing them to be moved around individually.
	<b>Copy Partial Path:</b> Creates a copy of the selected portion of a path segment.
	<b>Rounded Corner:</b> Converts a square corner to a rounded corner at the selected anchor.
	<b>Drag Anchor Path:</b> Allows you to click and drag to move the portion of a path between two anchor point
	<b>Average Anchor horizontally:</b> Moves all selected anchor point to the average position horizontally.
	<b>Average Anchor vertically:</b> Moves all selected anchor points to the average position vertically.

## Slice

	<b>Slice:</b> Splits segments and complex shapes along a straight line.
	<b>Curved Slice:</b> Splits segments and complex shapes using drawing tools.
	<b>Rectangle Slice:</b> Creates a rectangular border which slices all outline segments and artwork that intersect it.
	<b>Freeform Slice:</b> Draws a freeform shape, which slices all outline segments and artwork that intersect it

## Zoom

Tool	What it means
	<b>Zoom:</b> Magnifies the design to fit a rectangle drawn by the user with the mouse pointer.
	<b>Zoom in:</b> Magnifies the view of the design by a fixed amount.
	<b>Zoom out:</b> Shrinks the view of the design by a fixed amount.
	<b>Zoom percentage:</b> Zooms the view to a fixed percentage, set by the user.
	<b>Back to 1:1:</b> Returns design to original size.
	<b>Fit to Window:</b> Displays the entire design and loaded images in the window.
	<b>Fit selection to window:</b> Displays the selected segment so that it fits the window.

## Measure

	<b>Measure:</b> Measures distance between parts of design.
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## Lettering

Tool	What it means
	<b>Text:</b> Creates lettering placed along a baseline.
	<b>Stepped:</b> Creates lettering on an angle, going up or down like stairs.
	<b>Arc:</b> Creates curved lettering.
	<b>Circle:</b> Creates curved lettering.
	<b>Three Letter Monogram:</b> Creates monogram lettering.
	<b>Line Angle:</b> Creates horizontal lettering that fills a text box.
	<b>Vertical:</b> Creates a text path in which letters are stacked vertically, but oriented horizontally.
	<b>Rainbow Text:</b> Randomly selects new colors and applies them to a text segment.

## Settings Painter

Tool	What it means
	<b>Copy Settings:</b> Copies segment settings from one segment to one or more other segments.
	<b>Paste Settings:</b> Pastes copied settings that are shared between segments.

## Lock and Trim

Tool	What it means
	<b>Insert trim at End:</b> Inserts trim at the end of current segment.
	<b>Insert Lock Stitch:</b> Inserts a lock stitch at the end of a segment.

## Artwork

Tool	What it means
	<b>Pen:</b> Creates open shapes with Bezier curves.
	<b>Rectangle:</b> Creates rectangular or square shapes.
	<b>Ellipse:</b> Creates oval or circular shapes.
	<b>Auto Trace:</b> Detects contours of an image to create artwork segment.

## Import

	<b>Load Image:</b> Imports image (e.g. .jpg, .bmp, or .png) files for tracing.
	<b>Import Artwork:</b> Imports vector files.
	<b>Import TrueType®:</b> Imports TrueType® fonts as different segment types.

## Outline

	<b>Connect Shapes:</b> Automatically connects multiple artwork segments to form a smaller number of segments.
	<b>Reduce Nodes:</b> Removes redundant anchor points in artwork segments.
	<b>Remove Fill Color:</b> Removes the color fill of artwork segments (such as those imported from DrawFusion).

## Draw Fusion

	<b>Activate Draw Fusion:</b> Integrates the Draw Fusion design window into Tajima DG16 by Pulse.
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## Standard Digitizing

Tool	What it means
	<b>Enhanced Column:</b> Creates Satin or Fill stitches by traditional digitizing method.
	<b>Column:</b> Creates Satin or Fill stitches by traditional digitizing method.
	<b>Manual:</b> Creates manual and jump stitches.
	<b>Run:</b> Creates run stitches.
	<b>Complex Fill:</b> Creates a segment filled with Satin or advanced Fill stitching.
	<b>Steil:</b> Creates steil stitches.
	<b>Satin Path:</b> Creates a segment filled with Satin or Fill stitching.
	<b>Complex Satin:</b> Creates a complex satin fill stitch, which combines attributes of Complex fill with satin – can include multiple direction lines.

## Specialized Digitizing

Tool	What it means
	<b>Cross-stitch:</b> Creates stitches that resemble hand sewn cross-stitch.
	<b>Cross-stitch Fill:</b> Creates an embroidery fill consisting of cross-stitch.
	<b>Cascade Fill:</b> creates a fill made up of concentric rings of run stitches.
	<b>Fur stitch:</b> Creates an embroidery fill with the appearance of animal fur.

Tool	What it means
	<b>Star:</b> Creates oval or circular segments.
	<b>Radial Fill:</b> Create a segment filled with radial stitches.
	<b>Spiral Fill:</b> Creates an embroidery fill consisting of run stitches in a spiral pattern.
	<b>Appliqué:</b> Creates an appliqué border around an appliqué.
	<b>Appliqué Cut:</b> Creates a segment you can save as a vector file.
	<b>Line Carving:</b> Creates a carved line in a Carved Fill background.
	<b>Region Carving:</b> Creates a Carved Fill region with a different pattern in a Carved Fill background.
	<b>Symbol:</b> Creates copies of saved shapes.
	<b>Manual Sequin:</b> Places sequins along at any point along a manual stitch segment.
	<b>Shape echo:</b> Fills the space between two selected outlines with spiral fill stitches.
	<b>Complex Modifier:</b> Use to insert an area within a complex fill segment that has different properties than the main fill.
	<b>Brush:</b> Activates the brush tool, which creates steil segments with the look of calligraphy.

## Personalization

Tool	What it means
	<b>WordIt:</b> Based on one or more text strings, creates copies of these words in various colors and sizes, and scatters them across an area.
	<b>ColorIt:</b> Adjusts the overall color scheme of a design by lightening or darkening thread colors, or applying a color theme.
	<b>Random Repeat:</b> Makes copies of a selected design object, and repeats these copies in random sizes and positions within a set area.
	<b>Emoji:</b> Opens the Add Emoji side panel, which allows you to place emoji embroidery into a design.

## Sequin

Tool	What it means
	<b>Sequin:</b> Creates stitches that hold the sequin in place.
	<b>Sequin Fill:</b> Creates complex shapes filled with sequins.
	<b>Sequin Modifier:</b> Use to digitize an area within a sequin fill that has different sequin color or pattern than the original sequin fill segment.
	<b>Freeplace Sequin:</b> Allows sequins to be placed at desired points on a path.
	<b>Sequin Edit:</b> Used to move, add or delete sequins from a manual path.
	<b>Edit Sequin Spacing:</b> Allows you to create sequin segments with variable spacing.
	<b>Toggle Sequin:</b> Simulates the effect of gravity on eccentric sequins.

## Chenille

Tool	What it means
	<b>Lattice Chenille:</b> Creates Lattice Chenille stitching.
	<b>Spiro Chenille:</b> Creates Spiro Chenille stitching.
	<b>Chain Walk:</b> Creates a Chain Walk along a curved path.
	<b>Moss Walk:</b> Creates a Moss Walk along a curved path.

## Artwork Edit tools

When the Ribbon interface is enabled, select the Artwork tab to see and apply these tools.

Tool	What it means
	<b>Rotate:</b> Rotates the selected segment through any angle.
	<b>Duplicate:</b> Creates an identical copy of the selection.
	<b>Power Copy:</b> Copies the selection and then allows it to be copied, resized, and/or rotated.
	<b>Circular Copy:</b> Creates a pattern of copies, repeated in a circle around a central point.
	<b>Power Edit:</b> The selection can be moved, resized, rotated, stretched, reflected, or skewed, in a single step.
	<b>Offset:</b> Creates a new outline (or outlines) of an artwork segment that is offset from the original by a set distance.
	<b>Reflect:</b> Reflects the selection through one of a list of axes.
	<b>Align:</b> When more than one segment is selected, aligns the selected segments to the left, right, top, bottom, or center.

## Shape Artwork Tools

When the Ribbon interface is enabled, select the Artwork tab to see and apply these tools.

Tool	What it means
	<b>Combine:</b> Takes the selected artwork paths, and merges them into one path.
	<b>Breakup:</b> separates a single artwork path segment into multiple artwork path segments.
	<b>Unite:</b> Merges all selected artwork into one segment.
	<b>Exclude:</b> Removes the overlapped parts of overlapping Artwork segments, leaving the remaining parts of these segments intact.
	<b>Intersect:</b> Retains the overlapped area of selected artwork segments and deletes the remaining areas.
	<b>Clip:</b> Deletes that part of the outline of a segment that is behind another in the layering. The artwork segments remain separate.

## Creating New Designs

When you open Tajima DG16 by Pulse, you can immediately begin creating a new, untitled, design in the unified design window that holds both outlines and stitches.



To open a new design immediately, bypassing the New Document dialog, click the New  tool on the File toolbar.

## The New Document Dialog

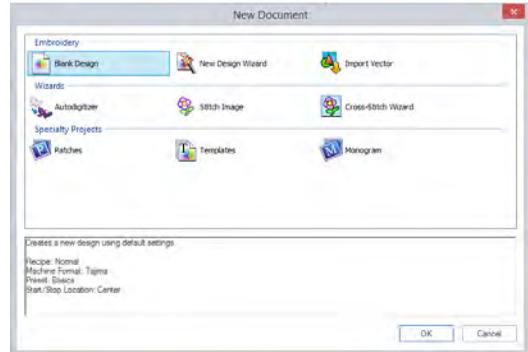
The design window automatically opens using the default Normal recipe (style), machine format settings, and design information. You can alter the default settings using the File menu at any time.

### To create a new design:

1 Do one of the following:

- ◆ Choose File—New.
- ◆ Press Ctrl + N.

*You see the New Document dialog.*



2 Do one of the following:

- ◆ To create a blank document with the Normal recipe applied, click on the Blank Design icon.
- ◆ To create a design and set the recipe, machine format, etc, click on the New Design Wizard icon.  
For details on this procedure, see “New Design Wizard” following.
- ◆ To create a new design based an imported Vector Artwork, click the corresponding icon.

## New Design Wizard

The New Design Wizard is an innovation to the way in which you create a new design in Tajima DG16 by Pulse. It leads you through a series of steps, which set up a new embroidery design for you.

### To use the New Design Wizard:

1 In the New Document Dialog, double-click the New Design Wizard icon.

*You see the New Design Wizard Dialog.*

- 2 From the drop-down list in the Recipe field, select the recipe that you want to apply to the new design; the specific settings of each recipe will appear in the window below when you select it. Click Next.  
*You see the machine format page.*
- 3 In the Machine Format list, select the machine format that you want applied to the design when created.
- 4 To make changes to machine format properties and settings, click the Edit button; this will open a new dialog.



Only advanced users should modify machine format properties. For more information on changing machine format properties and settings, see "Using Machine Formats".

- 5 Click next.  
*You see the tool presets page.*
- 6 Select a tool preset. Tool presets create a group of settings that are associated with your Punching tools. The settings of each preset are listed in a window in the dialog.
- 7 Click Next.  
*You see the set start/stop page.*
- 8 Select one of the following start and end locations:
  - ♦ Position in the center; when sewing out your design, the machine will start and end at the center of the design.
  - ♦ Position started and end on the first and last stitches, respectively; when sewing out your design, the machine will start and end at the first and last stitches of the design.
  - ♦ Position the first stitch at the center of the design, and the end at the last stitch.

*For more details on the start/stop locations, see "Setting the Start/End Locations" in the "Working with Machines" section of this guide.*

- 9 Click Next.  
*You see the Finish the Design page.*
- 10 (Optional) Do one of the following:
  - ♦ Save as a favorite.  
Save as Favorite keeps the settings you chose in the steps 2-5 as a template. Type in a name for this template in the text box. The next time you open the New Document dialog, this name will appear as one of the choices to use to open a new design.
  - ♦ Set as default. The settings you chose in steps 2-5 will be applied by default settings when you open a blank design.



If you check neither of these boxes, the settings you chose will be applied to this design only.

- 11 Click Finish.  
*You see a new design window.*

## Opening and Closing Designs

Tajima DG16 by Pulse allows you to open designs in a wide variety of file formats such as the Pulse Embroidery File (\*.PXF), Pulse Stitch File (\*.PSF), Melco Condensed Files (\*.CND), Barudan Stitch Files (\*.DSB), Happy Stitch Files (\*.TAP), etc.

When you open a Pulse Embroidery File (\*.PXF), the default file type, into the unified design window, your single design file contains both outlines and stitches. The icon and imported bitmaps are also stored in this design file. When you open an outline file into the unified design window, your design file holds outlines and stitches as well. You can open Stitch and Machine Format Files such as the Pulse Stitch File (\*.PSF) or the Tajima

Stitch File (\*.DST) in the unified design window too; however, you must choose how you want to treat the stitches in your design. When you open a Stitch or Machine Format File, you will be able to open the design file in one of two ways:

- **Open as stitch segments.** This option allows you to convert the stitches into a series of stitch segments. Stitches get grouped together where groups are separated by trims, color changes, change-overs, and stops. Each group is added to the design as a stitch segment. The stitches in stitch segments should be identical to the stitch file. Outline changes made to any part of the design will not affect stitch segments. You cannot perform any outline editing on stitch segments except to resize, reflect, rotate, and change the color of these stitch segments; however, major editing is not advisable. With the exception of the previously mentioned outline edits, the stitches which are part of a stitch segment can only be modified by direct stitch editing. This helps keep the stitches true to what was in the stitch file. If you want to perform more advanced outline edits on stitch segments, then you must selectively perform a Stitch to Outline conversion (STO) to the segments and convert them to our more advanced segment types. However, this will not guarantee the preservation of your stitches.



For more information on STO, see "Converting stitches to outline segments".

- **Convert stitches to outlines.** This option performs STO on the Stitch or Machine Format File first and then opens the resulting Outline segments. Convert stitches to outlines is ideal for performing

significant edits to the design file such as resizing or changing the density.

A preview of Design statistics is displayed when opening DST files. Information shown includes Stitches, Dimensions and number of colors in the Design. The system also creates a small icon.



To display the preview of a DST design, the system creates a small icon file (\*.DGT) by default. If you don't want such files to be created, you can change the default by going to Tools—Configuration — Environment—Behavior; uncheck the "Save Generated Icons" box.

You can also uncheck the "Icon Preview" box on the Open Design dialog.

You can open multiple design files at one time in the design window. When you open an existing design, the design's name, fabric settings, and machine format settings are displayed in the title bar.

### To open an existing design:

- 1 To open an existing design, do one of the following:
  - ♦ Choose File—Open.
  - ♦ In the File toolbar, select Open .

*You see the Open Design dialog box.*
- 2 In the Look in list, browse to the location of the file you want to open.
- 3 In the File name box, enter the file name, or select the file you want to open by clicking the file. To open multiple files, press **Ctrl** while selecting the files you want to open. To open all files, select any file and press **Ctrl+A**.
- 4 In the Files of type list, select a design file type for the design you want to open.
- 5 If desired, do one or more of the following optional steps:

- ♦ Select **Open as read-only** to open the design as read-only. Design editing is restricted and “View Only” will be displayed in the design window’s title bar.
  - ♦ Select **Icon preview** to view a thumbnail image of the design.
  - ♦ Select **Information** to view the design’s name, stitch count, size, and color.
- 6** If you are opening stitch files, select one of the following options from the list:
- ♦ Convert stitches to outlines
  - ♦ Open as stitch segments

In the User Settings dialog, you can set the default behavior for this field; it can set it to always convert to outlines, to always open a stitch segments, or to remember the last used setting.



See “Setting up Tajima DG16 by Pulse—Setting User Preferences—Open Stitch File Options.”

- 7** Click Settings to make changes to stitch files being opened.



These settings are remembered after you close and reopen Tajima DG16 by Pulse.

Setting	What it does
Maximum ISD	Enter the maximum distance between satin stitch lines (ISD). Values outside of this distance will be treated as non-satin stitches. If values fall within this distance, we will convert it to a satin segment.
Maximum density variation	Enter a percentage value that the variation of satin line distances (ISD) must fall within. Values outside this percentage are treated as non-satin stitches.
Run stitch length variation	Enter a percentage value that the variation of run stitch lengths must fall within. Values within this percentage are treated as Run segments.

Setting	What it does
Maximum stitch length	Enter a maximum stitch length value. Stitch lengths that are lower than or equal to this value will be treated as a Run segment.
Minimum stitches for run	Enter the minimum number of stitches allowed for a Run segment. If the specified number of stitches are found, the stitches will be treated as a Run segment.
Preserve connections as stitch segments	Select to have jumps that connect one segment to another segment remain stationary when segments are moved or regenerated. Use this setting for specific sewing applications where the movement of the embroidery machine between parts of the design is critical.
Auto-detect Connections	When this box is checked, connections between segments in the stitch file (such as color changes and jump stitches) will be recalculated when you modify them; left unchecked, the connections will be preserved as they were when you opened the file.
Ignore zero-length stitches	Select to ignore stitches that have a length of zero when creating Run segments.
Remove underlay	Apply this setting to have the STO algorithm remove apparent underlay stitching during conversion. There are three choices of settings: <ul style="list-style-type: none"> <li>• <b>None:</b> Any underlay in the original stitch file will be left as is.</li> <li>• <b>Simple:</b> Underlay will still appear in the workspace window, after the file is converted to outlines; when the design is regenerated; however, these stitches will be removed from the design.</li> <li>• <b>Aggressive:</b> Any underlay stitches be will be removed from the design from the outset, and will not appear in the converted file.</li> </ul>

Setting	What it does
Merge Fills	Select this option to merge complex fill and satin column segments in the converted stitch file.
Override Pattern	When checked, this causes any fill segments detected in STO conversion to be converted to either Pattern1 or Smooth.



For most sewing applications, the “Preserve connections as stitch segment” setting should not be selected. This ensures that jump stitches are updated when design editing occurs.

- 8 In the Machine Format box, select the machine format that you want applied to the design when opened.
- 9 Click Edit to make changes to machine format properties and settings.



Only advanced users should modify machine format properties. For more information on changing machine format properties and settings, see “Using Machine Formats.”

- 10 Click Open.

### To close a design:

- Choose File—Close.



When closing design files (other than \*.pxf files) that have not been saved, you will be prompted to save these files as \*.pxf and preserve all recent design edits.

## Tips

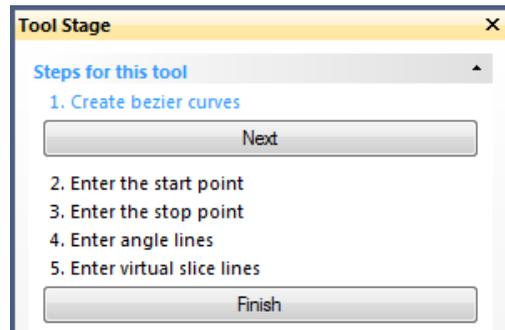
- To open a file you have recently worked on, choose File and then choose the design file from the list.
- To limit the number of displayed designs in the Open Design dialog, you can enter the first letter of the design name, followed by an asterisk (\*) and the file extension. For example, if you have an Embroidery design

file named Cats, enter C\*.pxf in the File Name box and press **ENTER** on your keyboard. You see a list of all the designs starting with C.

## About the Tool Guide

The Tool Guide is a new feature that describes the steps required to complete a particular task in Tajima DG16 by Pulse. The Tool Guide guides you through the steps of the task, and shows you which keyboard shortcuts are available to you at each step.

There are three parts to the Tool Guide: In the top part of the panel, you see the list of steps required to use the selected tool. These are listed in order, with the current step appearing in blue letters.



Below this, there is a section that gives a brief description of how of the current step.



Lastly, there is a list showing all of the shortcut keys that are available be used with the current step.

**Available hotkeys**

Enter: Finish segment  
 Ctrl: Enter a curved point  
 T: Start a new branch  
 Backspace: Backup to previously punched point  
 Shift: Force the next point to be at any 15 degree increment angle

The list changes depending on the tool currently selected, and which step of the procedure you are on.



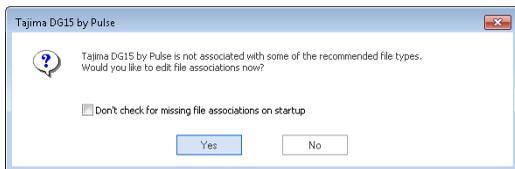
For example, if the tool you are using is a digitizing tool, the first step in would be "Create Bezier curves." Under the Available Hot keys, you would see included "A: Arc mode" "B: Bezier mode" "F: Freehand mode", etc.

## Setting Associated File types

When you open Tajima DG16 by Pulse for the first time, you will see a dialog asking if you want to set the file associations. When Tajima DG16 by Pulse is associated with a given file type, this means that these files will open in Tajima DG16 by Pulse by default.

### To set file associations at start-up:

- 1 Open Tajima DG16 by Pulse:  
*You see the Check for missing file associations dialog.*



- 2 Click Yes to set file associations.

Click "No" to skip the file associations dialog, and proceed to the design workspace.



You can also uncheck the "Check for missing file associations at startup" to stop this dialog from opening the next time you open Tajima DG16 by Pulse.

*You see the File Associations dialog.*

- 3 Check the boxes next to the types of files that you want to have associated with Tajima DG16 by Pulse.
- 4 Click Okay to close the dialog.

*The selected file types will now open by default in Tajima DG16 by Pulse*

You can also set file associations in the User Settings dialog; on the Ribbon, select Tools tab—User Settings, and then select the File associations page. You will be presented with the same options as in the File Associations dialog that you see at start-up.



## Saving Designs

You can use Save or Save As to save designs in a variety of file formats such as the Pulse Embroidery File (\*.PXG), Pulse Stitch File (\*.PSF), Barudan Stitch Files (\*.DSB), Tajima Stitch Files (\*.DST) etc. When you save a design to disk in Tajima Stitch File (\*.DST), Barudan Stitch File (\*.DSB), Tajima TBF File (\*.TBF), or Zangs/ZSK Stitch File (\*.DSZ) format, an icon file can also be saved to disk with the \*.DGT, \*.DGB, \*.DGR or \*.DGZ file extension in respective order. You can view these design icons on another computer or on selected embroidery machines that have a LCD display.

The Save As command lets you save an alternative version of the design with a different name, location, or file format. Save As is handy when you want to keep your original

design and create another design with slight modifications. The Save command saves the changes you make to the current design.

As a general rule, you should perform all outline edits to a design first (in outline mode) and save the design file. Next, you should perform all stitch edits to the same design (in stitch mode) and save the design file with a different file name. If you follow this general rule, you can avoid possibly losing your stitch edits while doing significant design editing.

### To save a design:

- 1 Choose File—Save As.  
*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, select the file type you want the design to be saved as.
- 5 To save a design to a Librarian database, click Librarian.  
*You see the Add Design dialog Enter the appropriate information. For more information on saving designs to a Librarian database, see "Saving a design to a database".*
- 6 Do one or more of the following steps:
  - ♦ To save selected segments in your design, select Selection Only.
  - ♦ To save icon files for Tajima Stitch File (\*.DST), Barudan Stitch File (\*.DSB), Tajima TBF File (\*.TBF), or Zangs/ ZSK Stitch File (\*.DSZ) formats, select Save Icons.
  - ♦ To store loaded images in associated \*.PXF design files automatically, select Save images in file, if not already selected. To make this option the default, click Make Default. If this option is not selected, all saved \*.PXF design

files will link to loaded images stored separately on your hard drive.

- 7 In the Machine Format box, select the machine format that you want applied to the design when saved.
- 8 Click Edit to make changes to machine format properties and settings.
- 9 To change your design using advanced settings, click Advanced. This option is not available for the \*.PXF format.
- 10 Click Save.



Only advanced users should modify machine format properties. For more information on changing machine format properties and settings, see "Using Machine Formats".

### To save changes to the current design:

- Choose File—Save.

## Saving a Copy of a Design

Tajima DG16 by Pulse allows you to easily save a copy of designs using the Save As Copy command from the File menu. You can save an alternative version of any design with a different name, location, or file format. This command, however, differs slightly from the Save As command.

When you save a design using Save As Copy, the saved design file has no connection to the open design. Any subsequent saves made to a design using the Save command from the File menu will not be saved on top of the saved copy. This feature is useful if you are creating many variations of a design.

### To save a copy of a design:

- 1 Choose File—Save As Copy.  
*You see the Save As dialog box.*

- 2 In the Save in list, browse to the location you want to save a copy of your file. You can save design files to your hard drive, a disk, or CD-ROM.
- 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, select the file type you want the design to be saved as, such as the Pulse Embroidery File (\*.PXF).
- 5 To save a design to a Librarian database, click Librarian.  
*You see the Add Design dialog Enter the appropriate information. For more information on saving designs to a Librarian database, see "Saving a design to a database".*
- 6 Do one or more of the following steps:
  - ◆ To save selected segments in your design, select Selection Only.
  - ◆ To save icon files for Tajima Stitch File (\*.DST), Barudan Stitch File (\*.DSB), Tajima TBF File (\*.TBF), or Zangs/ ZSK Stitch File (\*.DSZ) formats, select Save Icons.
  - ◆ To store loaded images in associated \*.PXF design files automatically, select Save images in file, if not already selected. To make this option the default, click Make Default. If this option is not selected, all saved \*.PXF design files will link to loaded images stored separately on your hard drive.
- 7 In the Machine Format box, select the machine format that you want applied to the design when saved.
- 8 Click Edit to make changes to machine format properties and settings.
- 9 To change your design using advanced settings, click Advanced. This option is not available for the \*.PXF format.

For additional information on Advanced settings, see "Outputting a design to an embroidery machine or disk".

#### 10 Click Save.



Only advanced users should modify machine format properties.

For more information on changing machine format properties and settings, see "Using Machine Formats".

## Correcting Mistakes

The Undo and Redo commands allow you to correct mistakes. If you make a mistake and change your mind about an action you just made, Undo reverses the action; Redo puts back the change. If Undo or Redo are grayed out in the Edit menu, you cannot Undo or Redo.

### To use Undo:

- Do one of the following:
  - ◆ Press Ctrl+Z on your keyboard.
  - ◆ On the Steps toolbar, click the Undo  tool.

### To use Redo:

- Do one of the following:
  - ◆ Press Ctrl+Y on your keyboard.
  - ◆ On the Steps toolbar, click the Redo  tool.

## Repeat Tool

The Repeat  tool repeats the last action completed. So, for example, if you choose to move a resize an object by a certain amount, and want to resize it by the same amount again, just click the Repeat tool

### To repeat an action:

- Do one of the following:
  - ♦ On the Steps toolbar, click the Repeat  tool.
  - ♦ Press Shift+R on the keyboard.

## Using Recipes



All the styles listed in the Recipe Selection dialog box are also listed in the Styles dialog box when you choose Tools—Manage—Styles.

All the styles you create in the Styles dialog box are saved to the Recipes Selection dialog box.

You can apply predefined settings when you open a new file, or you can apply these settings to existing designs using shortcut keys. For example, the Cap recipe (style) contains special underlay, pull-compensation, and density settings appropriate for designs that will be sewn on baseball caps. See "Preinstalled Recipes" for more information on the preinstalled recipes available and their settings.

The Recipe selection for the current open design can be changed from the Design Properties dialog (File—Design Properties). This allows you to choose a different recipe for new segments that will be punched. Changing the recipe in Design Properties will only apply to *new* segments – segments that existed before making this change will continue to have their previous settings applied to them.

## The Normal Style (Recipe)

Normal is a “blank” style that you can modify to create a your own recipe, containing your own custom settings. It is a useful if you want

to apply a particular suite of settings frequently, and this suite is not included among the preinstalled recipes.

## The Global Style (Recipe)

Settings in the Global style are applied to every design. Initially, the Global style contains pre-determined default values for each setting; however, these can be altered to suit your needs.

Global settings are applied first to a design, followed by the settings of the recipe in use; if the recipe you are using has a value assigned to it, then that value overrides the value in Global.

If the neither the recipe nor the Global style contain a value for a particular setting, then a reasonable default value will be assigned.

### To use a recipe:

- 1 Do one of the following.
  - ♦ Choose File—New.
  - ♦ Press Ctrl + N on the keyboard.  
*You see the New Design dialog.*
- 2 Select the New Design Wizard.  
*You see the initial New Design Wizard page.*
- 3 In Recipe field, select the recipe or style from the list.  
*The applied recipe (style) changes the default settings for the design.*
- 4 Click OK.  
*You see the recipe (style) you selected appear in the title bar.*

## Preinstalled Recipes

You can avoid having to assign the settings for common fabrics. You choose one of the preinstalled recipes when you open a new design file and the recipes containing fabric settings are applied to the design you create.

The following tables outline the preinstalled recipes, including their fabric settings. All fabric settings in the tables are in Embroidery Points (pt). If the setting is applied to the design using the selected recipe, you see **Yes** in the table. If the setting is not applied to the design using the selected recipe, you see a **No** in the table.



The preinstalled recipes detailed in the table below are read-only, that is, the settings cannot be changed in them. You may, however, base for your custom styles on them by modifying them and saving them under a different name.

For more information, see “Working with Styles”.

Fabric	Satin Density	Fill Density	Cross Overlap	Quality Control Overlap	Pull-Comp.	Contour Underlay	Lattice Underlay	Full Lattice	ZigZag Underlay	Parallel Underlay	Underlay Inset Distance	Underlay Density	Underlay Stitch Length
<b>Baby Blankets</b>	0	0	3	2	3	Yes	Yes	No	No	Yes	0.3	25	25
<b>Canvas</b>	1	1	4	2	4	Yes	Yes	Yes	Yes	No	0.3	30	30
<b>Cap</b>	0	0	1	1	2	No	No	No	No	No	0	0	0
<b>Dog Collar</b>	1	0.5	1	1	1	No	No	No	No	No	0	0	0
<b>Fake Fur</b>	0	0	3	2	3	Yes	Yes	No	Yes	No	0.3	25	25
<b>Fleece</b>	0	0	1	1	1	Yes	No	No	No	No	0.5	x	25
<b>Jeans</b>	0	0	2	1	2	Yes	Yes	No	No	No	0.4	40	25
<b>Leather</b>	1	0.5	1	1	1	No	No	No	No	No	0	0	0
<b>Lycra</b>	1	1	3	2	4	Yes	Yes	No	Yes	No	0.3	30	25
<b>Pique</b>	0.5	0.5	3	2	4	Yes	Yes	No	Yes	No	0.3	20	25
<b>Pullover</b>	1	1	4	2	4	Yes	Yes	Yes	Yes	No	0.3	25	30
<b>Satin</b>	1	1	1	1	1	Yes	No	No	No	No	0.4	0	25
<b>Shirt Cuff</b>	0	0	1	1	2	No	No	No	No	No	0	0	0
<b>Silk</b>	1	1	1	1	1	Yes	No	No	No	No	0.4	0	25
<b>Sweat Shirt</b>	0.5	0.5	3	2	3	Yes	Yes	No	No	No	0.3	20	25
<b>Towel</b>	0	0	3	3	3	Yes	Yes	Yes	Yes	x	0.4	20	25
<b>T-shirt</b>	0.5	0.5	3	1	4	Yes	Yes	x	x	x	0.3	20	25
<b>Velvet</b>	0	0	3	3	4	Yes	Yes	x	Yes	x	0.3	25	25
<b>Vinyl</b>	1	0.5	1	1	1	x	x	x	x	x	x	x	x
<b>Woven Fabrics</b>	0	0	2	1	2	Yes	Yes	x	x	x	0.4	40	25

# Changing Design Properties

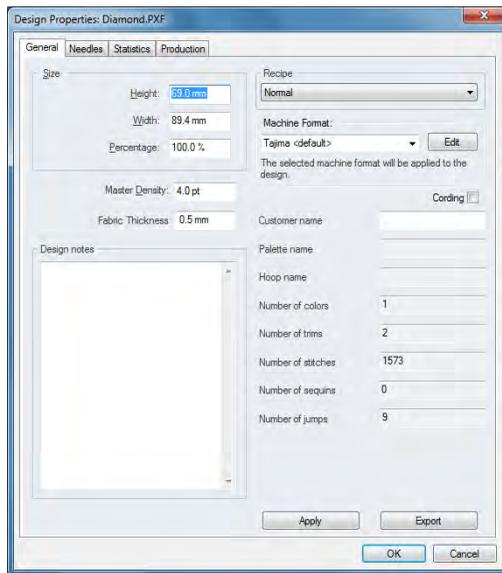
The design properties dialog contains stitch and outline information about a design, such as the design's overall size and density. If you change the density, these settings affect the whole design and not specific segments. Changes to the design's height or width adjust to be proportionate. You can view thread usage and actual stitch count, as well as production information. The fabric thickness value is useful for estimating a design's thread and bobbin usage, especially for printout calculations. This design properties information will appear in the production worksheet. You can also export design file information to an Excel spreadsheet. If you want to include thread usage information, click the Needles property page prior to exporting information. Thread sequence and stitch length information can be found in the Needles and Statistics property pages for this dialog.

## General tab

The Machine Format setting allows you to change stitching parameters for different models of embroidery machines. Setting the machine format for the type of machine that designs will be sewn on will ensure that the proper default stitch parameters are used, as well as ensure a more accurate stitch count.

### To change overall design properties:

- 1 Choose File—Design Properties.  
*You see the Design Properties dialog box*



- 2 Adjust any of the size and density settings listed.
- 3 In the Machine Format box, select the machine format that you want applied to the design.
- 4 Click Edit to make changes to machine format properties and settings.



Only advanced users should modify machine format properties. For more information on changing machine format properties and settings, see "Using Machine Formats".

- 5 Click Apply.
- 6 Click OK.

## Adding Design Notes

You can add notes to a design. For example, you can enter notes about the design, such as the type of hoop used; special techniques used; or anything else you want to note.

### To add design notes:

- 1 Choose File—Design Properties

You see the *Design Properties dialog box*.

- 2 Click the General properties page.
- 3 In the Design Notes box, enter your design notes.
- 4 Click Apply.
- 5 Click OK.

## Needles tab

The Needles tab of the Design Properties Panel displays all the needle colors used in the current design, and information about the threads on each needle.

Design Properties: Bird of Paradise.PXF

Design Properties: Bird of Paradise.PXF						
General   Needles   Statistics   Production						
	Color	Length	Stitches	Manufacturer	Code	RPM
2		4.06 m	830	R-A SSR-7	2614	250
3		8.44 m	1649	R-A SSR-7	2297	250
4		2.55 m	432	R-A SSR-7	2462	250
5		3.75 m	671	R-A SSR-7	2330	250
6		2.71 m	585	R-A SSR-7	2329	250
7		7.57 m	1191	R-A SSR-7	2547	250
8		2.38 m	443	R-A SSR-7	2322	250
9		10.59 m	3461	R-A SSR-7	2296	250

For each color, the following information is shown:

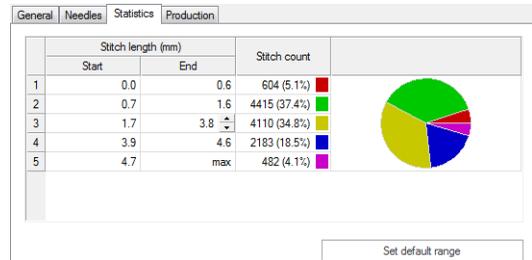
- The total length of thread used.
- Number of stitches for each color.
- Thread manufacturer name.
- Thread color code.
- Speed (RPM).



The RPM of each segment can be set individually on the Segment Settings panel. See “Changing Segment Settings—Command Properties—Setting the Machine speed for Individual Segments.”

## Statistics tab

The Statistics tab shows the distribution of the design’s stitches by length. There are five ranges of stitch length on the page. The number of stitches, and the percentage of the total number of the whole design, are shown for each; the percent distribution is also shown graphically.



You can adjust the upper and lower limits of each range by selecting the field. When a field is selected, it will show arrows on the right side, which can be clicked to increase or decrease the selected limit. The number of stitches in each range, and the percentage values, will update accordingly.

After adjusting the upper and lower limits, the adjusted ranges may be set as the default by clicking the “Set default range” button on the dialog.

## Production Tab

On the production tab you will see displayed settings relating to the production speed of the current design. There is also an area for entering messages to display on the embroidery machine console (before and after sewing) and an area for setting an absolute machine start position.

## Estimated Time for Embroidery

The Estimated Time for Embroidery function gives you an approximate time that it will take for the design to sew out.

The Tajima DG16 by Pulse software does this using information about the design that it collects automatically (the number of stitches, the number of color changes, the number of trims, and the number of stops) along with parameters entered by the designer (the time for each trim and color change, as well as machine speed). This is then used to calculate the estimated time to sew out the design, according to the following formula:

**Estimated time** = (Stitch count÷RPM) +(trim time×#of trims) +(Color change×#of colors)

The result is immediately displayed in the dialog as the **Sewing Time (h:m:s)**.

### To view the estimated time for embroidery:

- 1 Choose File–Design Properties, or press Shift + E.  
*You see the design Properties page.*
- 2 Click the Production tab.
- 3 Enter the trim time and color change time (in seconds), and machine speed (RPM) in the appropriate boxes.

*The calculated estimated time for embroidery now appears in the dialog.*

Machine Times

Trim time (sec): 2

Color change (sec): 4

RPM: 250

Sewing time (h:m:s): 0:49:12

Design cost: \$11.76

The dialog also displays an estimate of the design cost. This figure is based on the number of stitches in the design and the Cost Setting (per 1000 stitches) which is set in the User Settings dialog. For more information, see “Setting user preferences”.



## Adding Display Messages

It is now possible to send instructional messages to the machine, on advanced machine models that support this. The messages are associated with the individual design file, and will appear on the machine's control panel at the corresponding stage (i.e. start and/or end) of the sewing process.

The facility to display messages on the machine console is only available on the following Tajima embroidery machines: TEMX-C, TFMX-C, TUMX-C, TWMX-C (single head), and TEMX-C, and TFMX-2C, TFMX-2 and TFMX-C (multi-head).



### To add a message:

- 1 Select File–Design Properties to open the Design Properties panel.  
*You see the design Properties page.*
- 2 Select the Production tab.
- 3 Check the "Before sewing" and/or "After sewing," check boxes to enable the fields.

Message to display on machine screen

Before sewing <before sewing text>

After sewing <after sewing text>

- 4 Input the message you want into the text field.

## Design RPM

You can set the overall sew-out speed for the given design on the Production tab of the design properties dialog. Note, however, that the actual speed may be limited by the specifications of your embroidery machine. The default value is 600 RPM (stitches per minute.)

## Design Starting Position

For designs in the Tajima \*.TBF and \*.TCF formats, you can set the absolute needle starting position (X- and Y- coordinates). This information will be written to the TBF/TCF files when the design is saved. You will also see the Start  icon displaced by this amount in the workplace.

## Units of Measurement

Tajima DG16 by Pulse converts measurements that you enter in text boxes to the type of units selected on the User Preferences property page. For example, if you have set the units of measurement to metric and then enter 1 inch in a text box, the software will convert the measurement to 25.40 mm.

You can use the following units and abbreviations in text boxes:

Unit	Abbreviations
Imperial	• inch, inches, in
	• stitches per inch, spi
	• millimeter, millimeters, mm
Metric	• centimeter, centimeters, cm
	• points, pts

## Using the Symbol tool

### Saving Selected Segments as Symbols

You can save a design segment as a symbol (\*.sym) using the Symbol tool. Once the symbol is saved, the motif can be reused in any design. You can add multiple copies and resize the motif while you add it. For example, you can select one of the butterflies in the

following design, save it as butterfly.sym and then use it in any number of designs.



### To save a selected segment as a symbol:

- 1 Select the segment that you want to save as a symbol.



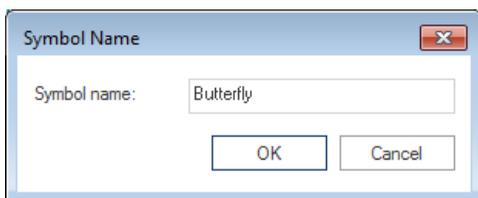
 You can only use the Symbol tool after you have created a symbol or if some symbol files have been installed automatically with the software.

- 2 Right-click, or press Ctrl+E on the keyboard.  
*You see a shortcut menu.*
- 3 From the shortcut menu, choose Save–Symbol...  
*The cursor becomes a cross.*

- Click and drag a baseline across the segment.



You see the Symbol name dialog box.



- In the dialog, enter a name for the symbol.
- Click OK save your symbol.  
*The selection is saved in the symbols directory, and will now appear in the list of Symbols you can choose from whenever the Symbol tool is active.*

### To use a symbol in a design:

- Create a new design file, or open an existing design.
- From the Specialized Digitizing toolbar, select the Symbol  tool.  
*The cursor becomes a cross.*
- On the Properties bar or in the Properties panel—Tool settings page, click the down-arrow next to the Symbol field:  
*You see the list of available Symbols.*



- Select the symbol you want to use from the list.
- In the workspace, click, hold, and drag to place the symbol into your design. The direction you drag will determine the orientation of the symbol, and the length you drag will determine the size of the copy created.
- Release the mouse to place the symbol.
- Repeat steps 5-6 to place more copies of the selected symbol.
- Press Enter when you are done adding symbols.



If you have checked “Right-click to complete segments” in the User Settings—Environment page, you will need to right-click when done adding symbols.

## Deleting Symbols

You can easily delete a design segment saved as a symbol (\*.sym).

### To delete symbols:

- Choose File—Delete Symbols.  
*You see the Delete dialog.*
- In the Look in list, browse to the location of the file you want to delete.  
*The default symbols folder is C:\Program data\Tajima\DG16 by Pulse\Symbol.*
- In the File name box, enter the file name, or select the file you want to delete by clicking the file. To open multiple files,

press **Ctrl** while selecting the files you want to open. To open all files, select any file and press **Ctrl+A** on your keyboard.

- 4 Click Delete.

## Stitch Exception Settings

You can select the stitch exception settings. The Highlight Stitch Shorter than and Highlight Stitch Longer than settings set the stitch exceptions that will be found in your designs.

### To set the Stitch Exception:

- 1 On the Tools tab, select User Settings.  
*You see the User Settings property pages.*
- 2 Click the Drawing property page.
- 3 Select the following settings:
  - ♦ In the Highlight Stitch Shorter than box, enter the stitch length.
  - ♦ In the Highlight Stitch Longer than box, enter the stitch length.
- 4 Click OK.

## Using the Scroll Bars

Scroll bars are the bars located along the bottom and right side of the screen used to view parts of a design outside the current viewing area.

### To use the scroll bars:

There are three movements you can perform with the scroll bars:

- Click a scroll arrow, on either end of a scroll bar, to move the current view in the selected direction.
- Click and drag the scroll box to view any part of your design in any direction.
- Click the inside of the bar itself to move the view by one length or width of the window.

See your Windows documentation for more information.

## Workspace Guidelines

### Adding Guidelines

You can use guidelines to help you precisely align text and segments in your embroidery designs. Guidelines are straight horizontal or vertical lines that you drag from the rulers into your design. These guidelines are easy to make and they are useful for setting alignment lines across the length or width of the design workspace.



When digitizing, you can turn on “Snap to Guidelines” to make the anchor points you place snap exactly to a nearby guideline. “Snap to guidelines” may be toggled on and off by pressing **Shift+F4** or selecting **View—Grid—Snap to Guidelines**.

### To create a horizontal guideline:

- 1 Position the pointer inside the ruler at the bottom of the window.
- 2 Hold down the left mouse button and drag the guideline into the design window.
- 3 Release the mouse when the guideline is in the position you want.

### To create a vertical guideline:

- 1 Position the pointer inside the ruler at the left side of the window.
- 2 Hold down the left mouse button and drag the guideline into the design window.
- 3 Release the mouse when the guideline is in the position you want.

## Moving Guidelines

You can use ruler guidelines to help you precisely align text and segments in your embroidery designs. Guidelines are straight horizontal or vertical lines that you drag from the rulers into your design. These guidelines are easy to make and they are useful for setting alignment lines across the length or width of the design workspace.

### To move existing guidelines:

- 1 Position the pointer on the guideline you want to move.
- 2 Press Ctrl+Shift on your keyboard while clicking and dragging your pointer to the appropriate area of your design workspace.
- 3 Release the mouse button when you reach the desired position for your guideline.  
*The guideline is placed.*

## Removing Guidelines

If guidelines are cluttering your workspace, you can remove them.

### To remove all guidelines:

- 1 Choose View—Remove all Guidelines.  
*You will be prompted with a message box asking you if you are sure you want to remove all the guidelines.*
- 2 Click Yes.  
*The guidelines are removed.*

## Changing the Ruler Origin

The ruler origin is the point where the horizontal and vertical axes meet at zero on the rulers. When you change the ruler setting, the new setting becomes the default for any

existing or new design you open. Changing the origin is also useful for realigning the grid to your design.

### To change the ruler origin:

- 1 Move the pointer to the lower left corner of the rulers, where the rulers intersect.
- 2 Click the intersection, hold down the mouse button and drag the ruler to the location you want to place the origin.  
*As you drag, a large cross hair appears so you can place the cross hair exactly where you want it.*
- 3 Let go of your mouse when the center of the cross hair is where you want the origin (0 point) to appear.

## Defining Ruler Units

Large numbered rulers indicate the measurement unit, such as inches or centimeters. The small ticks indicate the increments of the units such as ¼ inch. When you magnify or reduce the view, the increments of the unit measure adjust to reflect the changes. In addition, if you change the grid settings, the rulers change to fit the measurements you set. The default for the ruler measurement is inches.



The rulers change to fit the measurements you set in the next window you open.

### To set the ruler units:

- 1 On the Ribbon, select Tools tab—User Settings .
- 2 Click the User Preferences property page.
- 3 Select Metric or Imperial.
- 4 Click OK.

# Measuring Designs

The Measure tool lets you measure the distance between any two points in your design workspace. When you measure from one point to another, the distance is displayed in the status line located at the bottom of the window. The status line shows the horizontal and vertical distances the Measure tool travels from the x and y axes, the angle measured, and the total distances.



All measurements except the angle are calculated in the unit of measure you set in the User Preferences.

## To measure designs:

- 1 In the View toolbar, click the Measure tool.  
*Your cursor changes to a measuring tape when in the Design Workspace.*
- 2 Click and drag your mouse until you are finished measuring the item.
- 3 Let go of your mouse when you are finished measuring.
- 4 Look in the status line at the bottom of your screen for the measurement.
- 5 Right-click to stop the measuring tool.

# Printing Designs

## Changing a Design's Print Settings

You can customize embroidery design's print settings. Tajima DG16 by Pulse allows you to adjust the image and worksheet information displayed in design printouts.



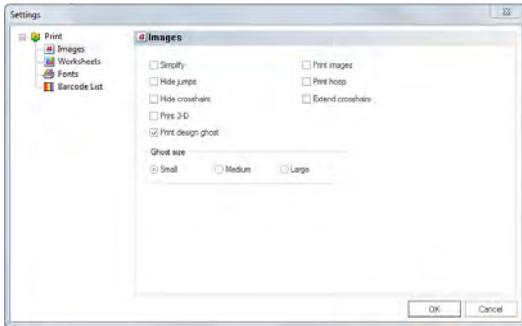
You can also change the worksheet settings before you print by clicking Print Settings in the Print dialog box.

## To change a design's print settings:

- 1 On the Ribbon, select Tools tab—User Settings .  
*You see the User Settings property pages.*
- 2 Click the Print property page.



- 3 In the Print design as area, select one of the following settings:
  - ♦ Outlines. Select to print the design image with only outlines.
  - ♦ Stitches. Select to print the design image with only stitches.
- 4 Select Print actual size, Scale Design or Fit to Page. These settings control how you view the design in the worksheet. If you want to scale the design, enter a percentage value in the Scale Design box and the design will be scaled to the specified value when printed.
- 5 Expand Print Settings menu by clicking on the plus sign to the left of the Print icon. From the menu that appears, select Images.

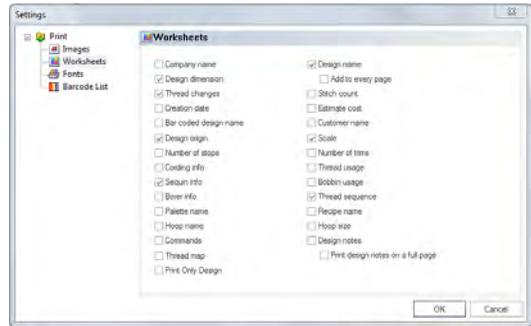


- 6** On the Images page, select any of the following.
- ◆ Simplify. Select this setting to print a basic thread sequence view that includes a simplified view of the colors used and the color sequence rather than the expanded thread sequence that includes the name of the thread color, thread number, thread chart name, length of thread used, and the number of stitches in the segment. You must also have Thread Sequence selected under Worksheet Setting.
  - ◆ Hide Jumps.
  - ◆ Hide Crosshairs.
  - ◆ Print 3D to print the design in 3D.
  - ◆ Print Images to print design background images along with the design.
  - ◆ Print Hoop to print the hoop along with the design.



The hoop must be displayed in the design window.

- ◆ Extend Crosshairs to the entire worksheet's width and height.
- 7** From the menu, select the Worksheets page.



- 8** Check boxes to select the information you want to have printed on your worksheet. You can select such information as your company name, the design dimensions, the stitch count, and so on.



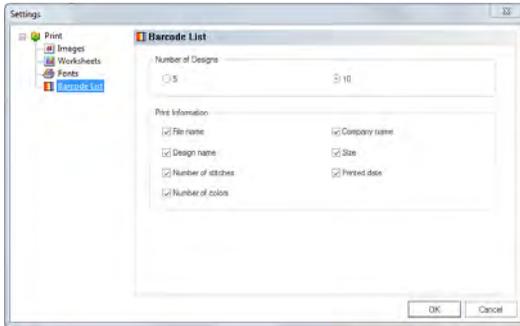
To disable all the other information, so that only the image will print on the worksheet, check "Print Only Design." Any other selected information boxes will be grayed out, and will not print, but they will remain checked.

- 9** Select Fonts to open the Fonts page.



- ◆ Click the Font button to browse for and choose and choose a new font, font style, and size for the information printed on the worksheet.
- ◆ Click the Bar Code Font button to choose the font for the bar coded file information on your worksheet.

- 10 Select the Barcode List page to choose the information that will be included on barcode worksheets.



- ◆ Number of Designs: Select the maximum number of designs that will be printed per worksheet.
- ◆ Select the types of information to be included on the barcode worksheet:
  - ◆ File name.
  - ◆ Design name.
  - ◆ Number of stitches.
  - ◆ Number of colors.
  - ◆ Company name.
  - ◆ Size.
  - ◆ Printed date.

- 11 Click OK to close the Print configuration pages and save your changes.

## Previewing a Design Before Printing

You can preview a worksheet on the screen before sending it to the printer.

### To preview a design:

- 1 Do one of the following:
  - ◆ Choose File—Print Preview.
  - ◆ On the File toolbar, select the Print Preview tool.

- 2 To zoom in and out of the previewed worksheet, do the following:
  - ◆ To zoom in on the worksheet, click Zoom In and scroll to view specific parts of the design.
  - ◆ To zoom out on the worksheet, click Zoom Out and scroll to view specific parts of the design.
- 3 To change the settings for the design worksheet, click Settings.
- 4 Click OK.
- 5 To close print preview and return to the design window, click Close.

## Setting up Design Worksheets

You can create helpful worksheets for your designs including various settings such as company name, design name, estimated cost, and thread sequence. You can also print your customer's name and other special design commands. In addition, you now can set the font and font size you want for your design worksheet. You can also print barcodes; however, you must first purchase the barcode font.



You can also change the worksheet settings before you print by clicking Print Settings in the Print dialog box.

### To set up worksheets for designs:

- 1 On the Ribbon, select Tools tab—User Settings .
 

*You see the User Settings property pages.*
- 2 Click the Print Setting property page.
- 3 In the Print design as area, select one of the following settings:
  - ◆ Outlines. Select to print the design image with only outlines.
  - ◆ Stitches. Select to print the design image with only stitches.

- 4 In the Image Setting area, select one or more of the following settings:
  - ◆ Print actual size, or Scale Design or Fit to Page. Select one of these settings control how you view the design in the worksheet. If you want to scale the design, enter a percentage value in the Scale Design box and the design will be scaled to the specified value when printed.
  - ◆ Simplify. Select this setting to print a basic thread sequence view that includes a simplified view of the colors used and the color sequence rather than the expanded thread sequence that includes the name of the thread color, thread number, thread chart name, length of thread used, and the number of stitches in the segment. You must also have Thread Sequence selected under Worksheet Setting.
  - ◆ Hide Jumps.
  - ◆ Hide Crosshairs.
  - ◆ Print 3D to print the design in 3D.
  - ◆ Print Outline files as Stitch files to print a Stitch file worksheet from an Outline file.
  - ◆ Print Hoop to print the hoop along with the design.
  - ◆ Extend Crosshairs to the entire worksheet's width and height.
  - ◆ Print Images to print design background images along with the design.
- 5 In the Worksheet setting area, select the information you want to print on your worksheet.
- 6 In the Font setting area, click Font. Browse and choose a different font type and size for your worksheet. Click OK. The default font is Arial at 12pt.
- 7 Click the User Preferences property page.

- 8 In the Company Name box, enter your company name so that it is printed on the worksheet.
- 9 Click OK.

## Printing Design Worksheets

You can print worksheets for design files. When you print a worksheet for a design file, the worksheet information depends on the selected settings in the Print Setting property page. You can choose to include the design's name, dimensions, stitch count, estimated cost, and other available settings when printing your worksheet.

### To print a worksheet for your design:

- 1 Choose File—Print Preview to view the worksheet before you print.
- 2 To change the settings for the design worksheet or check the information that will be printed on the worksheet, click Settings.
- 3 Click OK.
- 4 Click Print.

## Printing in 3D View

You can print your design in 3D View. By printing a design in 3D, you can show your customers a realistic view of the design, before you show them a sewn sample.

### To print in 3D View:

- 1 On the Ribbon, select Tools tab—User Settings .
- 2 Click the Print Setting property page.
- 3 Select Print 3D.
- 4 Click OK.
- 5 Choose File—Print.



# CHAPTER 6

## Working with Thread Charts and Thread Tables

Tajima DG16 by Pulse comes with a number of pre-installed thread charts, which contain information on threads from many thread manufacturers. You can use Tajima DG16 by Pulse's Thread Table Editor to create your own custom thread charts and palettes. You may also use the Thread Table Editor to create new threads to add to your custom thread charts.

*Topics covered in this chapter:*

- Loading thread charts and palettes
- Using the Thread Table Manager to create and modify thread charts and palettes.
- How to edit the active color palette.
- Using the Preview Palettes feature.

## About Thread Charts and Palettes

Tajima DG16 by Pulse has thread charts installed that contain information on threads from many thread manufacturers. Threads from a selected thread chart are displayed in the lower right hand side of the Tajima DG16 by Pulse workspace. Clicking the plus (+) sign at the edge of the thread chart list will allow you to change the selected thread chart for the current design.

A thread palette is a set of thread colors that are used often in a design. While thread charts usually contain all of the available colors for a specific manufacturer, thread palettes usually contain only a limited subset of threads. Typically a thread palette is made up of only common thread colors or threads required for a specific design.

You can add more thread colors to the thread palette by clicking on one of the threads from the currently selected thread chart on the right hand side of the screen or by right clicking on the thread palette and selecting Change Palette—Edit Active Palette. The Edit Active Palette feature allows you to quickly add threads from multiple thread charts to the active palette.

## Editing Thread Charts and Palettes

The Thread Manager allows you to create and edit thread charts and palettes. Use it to customize the default thread color palette as well as any thread color charts that come with Tajima DG16 by Pulse.

The Thread Manager allows you to view the thread charts and palettes and open new custom thread charts and/or palettes. Once you load thread charts, you can do any of the following:

- Change the properties (color, material, etc.) of existing threads.
- Create new threads.
- Insert a thread into the chart.
- Delete a thread from the chart.

## Loading a Thread Chart or Palette

When you open a thread chart or palette using the Thread Manager, it will appear as a new tab in the workspace.

The columns in the Thread Manager table list the following properties of each thread:

- Index number (order of the thread in the current chart or palette)
- Name.
- Manufacturer
- Code number.
- Thickness.
- Thread type (e.g., cotton, rayon, metallic, etc.)

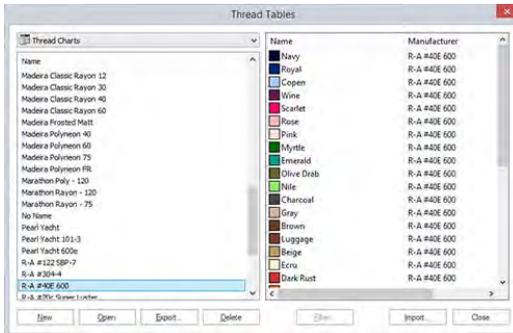


You can sort the data in each column in alphabetical or numerical order (whichever is applicable). Click in the column heading once for ascending order; click the column heading a second time for descending order

## To load a thread chart/palette:

1 On the Manage tab, select Thread Charts.  
*You see the thread table dialog.*

2 On the thread chart dialog, select a chart from the list.  
*When the chart or palette is selected, the threads it contains are listed in the preview pane on the right side of the dialog.*



3 Click the Open button.  
*The selected chart appears as your workspace as a new tab.*

Index	Name	Manufacturer	Code	Thickness	Type
1	Royal Blue	Classic No. 40	1134	3	Cotton
2	Tomato Red	Classic No. 40	1037	3	Cotton
3	Eucalyptus	Classic No. 40	1290	3	Cotton
4	Mustard Brown	Classic No. 40	1165	3	Cotton
5	Midnight Blue	Classic No. 40	1242	3	Cotton
6	Jungle Green	Classic No. 40	1249	3	Cotton
7	Robin Egg Blue	Classic No. 40	1093	3	Cotton
8	Hyacinth	Classic No. 40	1112	3	Cotton
9	Aztec Gold	Classic No. 40	1125	3	Cotton
10	Evergreen	Classic No. 40	1303	3	Cotton
11	Lilac	Classic No. 40	1033	3	Cotton
12	Jet Black	Classic No. 40	1000	3	Cotton
13	Sapphire	Classic No. 40	1076	3	Cotton
14	Bordeaux	Classic No. 40	1035	3	Cotton
15	Flesh	Classic No. 40	1017	3	Cotton

4 If required, you can repeat the above procedure to open multiple thread charts.

## Creating a Custom Thread Chart

New thread charts can be created by using the Thread Chart dialog; you can add threads from any of the manufacturers' thread charts that come loaded with the software, or add your own, original thread colors using the New thread dialog.

### To create a new thread chart:

1 On the Manage tab, select Thread Charts.  
*You see the Thread Tables dialog.*

2 At the bottom-left of the dialog, click the New button.  
*A new tab opens in the workspace, containing an empty thread chart.*

3 Add threads to the new chart. You can add threads by doing one or more of the following:

- Creating new threads using the New Thread  tool.
- Inserting a new thread with the Insert Thread  tool.
- Importing threads from other charts using the Import Thread  tool.

4 When done adding threads, select File—Save or press Ctrl+S to save the chart.  
*The Save Thread Chart dialog appears.*

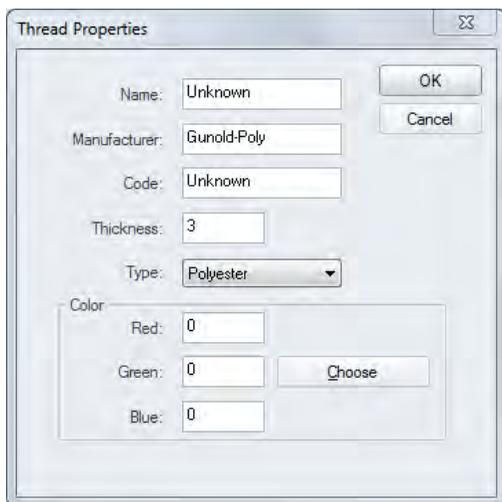
5 In the Name field, enter a name for the chart and click OK.  
*Your new chart will be saved to the Thread DB folder, and can now be used in designs.*

## Creating a New Thread

The Thread Manager allows you to create new threads. You can create new threads to meet your specifications, by selecting the exact color, thread type, and thickness you need.

### To create a new thread:

- 1 Load a thread chart or palette.  
*A new tab opens in the workspace, displaying the selected thread table.*
- 2 Do one of the following:
  - ◆ Click the Add Thread  tool at the top of the thread chart.
  - ◆ Press Ctrl+N on the keyboard.*You see the Thread Properties dialog.*



- 3 In the Name box, enter a name for the new thread you want to create.
- 4 In the Manufacturer box, enter the name of the manufacturer of the thread chart containing the new thread.
- 5 In the Code box, enter a unique code to identify the new thread. A thread code is normally used to identify the thread when placing an order.
- 6 In the Thickness box, enter a value for the thread thickness. The default value is 3.
- 7 In the Type list, select the thread type. The type setting is describe the material used to make the thread, such as cotton, rayon, nylon, wool, or polyester.

- 8 In the Color area, assign an intensity value to each of the three base colors that comprise the screen color spectrum, red, green and blue. These are the standard values for representing color on computer screen.



Click the Choose button to select from a list of basic colors or to create a custom color. Once a color is selected, the RGB values for the selected color will be displayed in the color values.

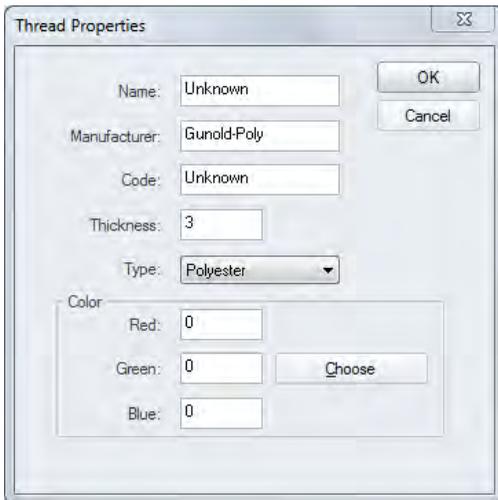
- 9 Click OK.  
*You see the new thread added to the thread chart.*
- 10 Save the chart.

## Inserting a New Thread

The Thread manager allows you to insert a new thread into a chart or palette. The Insert command will place the new thread immediately after the currently-selected thread in the table.

### To insert a new thread:

- 1 Load a thread chart or palette.  
*A new tab opens in the workspace, displaying the selected thread table.*
- 2 Select the thread immediately above the place in the table where you want to insert a new thread.
- 3 Do one of the following:
  - ◆ Click the Insert Thread  tool at the top of the thread chart.
  - ◆ Press Ctrl+I on the keyboard.*You see the Thread Properties dialog.*



- 4 In the Name box, enter a name for the new thread you want to create.
- 5 In the Manufacturer box, enter the name of the manufacturer of the thread chart containing the new thread.
- 6 In the Code box, enter a unique code to identify the new thread. A thread code is normally used to identify the thread when placing an order.
- 7 In the Thickness box, enter a value for the thread thickness. The default value is 3.
- 8 In the Type list, select the thread type. The type setting is describe the material used to make the thread, such as cotton, rayon, nylon, wool, or polyester.
- 9 In the Color area, assign an intensity value to each of the three base colors that comprise the screen color spectrum, red, green and blue. These are the standard values for representing color on computer screen.



Click the Choose button to select from a list of basic colors or to create a custom color. Once a color is selected, the RGB values for the selected color will be displayed in the color values.

## Changing Thread Properties

The Thread Properties dialog allows you to alter the properties of threads in a thread chart, such as the thread name, manufacturer, thickness, or thread color. You can also create your own unique threads to add to a thread chart with this dialog, by assigning the thickness, colors, and so on, to a new thread that you create.

### To edit thread properties:

- 1 Load a thread chart.
- 2 Select the thread you want to edit from the table.

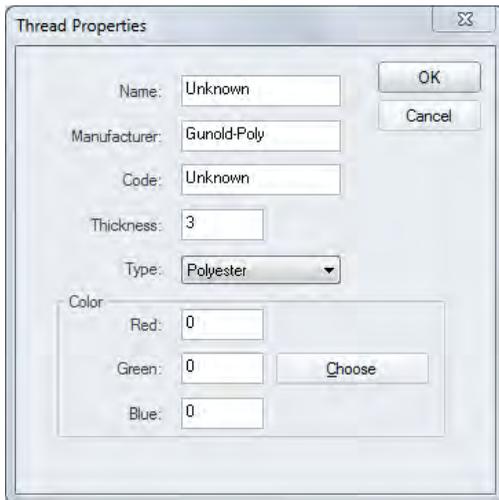


If you want to change properties of more than one thread at the same time, use **Shift+click** to select multiple adjacent threads, or **Ctrl+click** to select threads that are not adjacent.

- 3 Do one of the following:

- Click the Edit Thread  button at the top of the thread chart.
- Press Ctrl+E on the keyboard.

*You see the Thread Properties dialog.*



- 4 In the dialog, edit of the thread properties



For more information on thread property settings, see "Creating a New Thread".

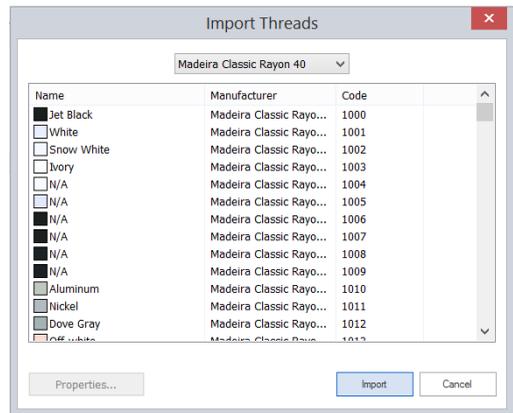
- 5 To apply your changes, click OK.
- 6 Save the chart or palette.

## Importing threads into a Chart or Palette

In the Thread Chart Manager or Thread Palette Manager, you can use the Import function to move threads from thread chart or palette into another.

### To Import threads with the Manager:

- 1 Load a thread chart or palette.  
For more information, see "Loading a Thread Chart."
- 2 Do one of the following:
  - ◆ Click the Import thread  button at the top of the thread chart.
  - ◆ Press Ctrl+R on the keyboard.  
*The Import Threads dialog opens.*



- 3 From the drop-down list at the top of the dialog, select the chart that you want to import the thread(s) from.
- 4 Select the thread or threads you want to add; use Ctrl+click or Shift+click to select several threads simultaneously.
- 5 Click Import.  
*The new threads will be added to the open thread palette or thread chart.*
- 6 Save the thread chart to apply the change.

## Saving a Design Palette

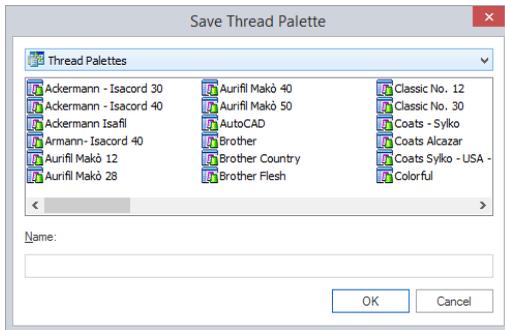
In cases where you have created a unique palette for a specific design, you can save it as a custom palette and reuse it later.

### To save a Design Palette:

- 1 Open the design.
- 2 If required, edit the design's active palette until all the colors are as you want them.
- 3 Click the Palette  button (lower left-hand corner of the workspace).
- 4 Select Save as Thread Palette...



You see the "Save Thread Palette" dialog.



- In the Name field on the dialog, type a name for the palette.
- Click OK.  
*The new palette will be saved, will now be available for application to other de-signs.*

## Importing a Thread Palette as the Active Palette

You can import the threads of any palette (system or custom) directly into the active palette of the current design..



Note that the thread colors of the imported palette will over-write and replace the threads of the (previous) active palette

- Open a design.
- Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu.*
- Select Change Palette—Import Thread Palette from the context menu.



You see the Thread Palettes dialog.

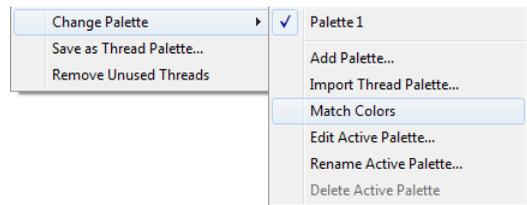
- Select a palette from the list, and click Open.  
*The imported palette will appear as the active palette.*

## Matching Colors

Using the Match Color function, the threads in the current design palette can be exchanged with threads in a new palette of your choosing. This tool analyzed the design palette colors and automatically selects those colors from the selected thread chart which most closely match those in the current design palette.

### To Match Colors:

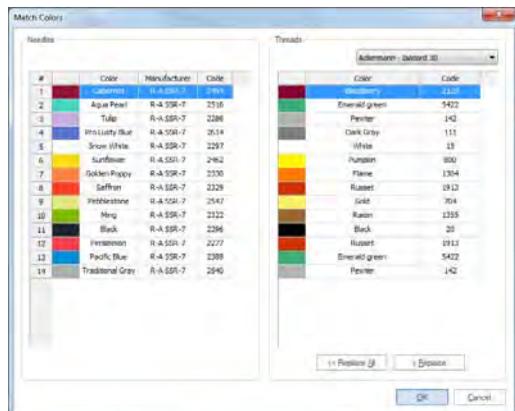
- Open a design file.
- On the palette bar, click the Palette  button.
- From the context menu, select Change Palette—Match Colors.



*The Match Colors dialog opens.*

- Select the chart you want to use from the drop-down list of thread charts, located at top-right corner of the dialog.  
*In the dialog, the threads of the current design palette appear on the left, and the*

*matching threads from the selected chart on the right.*



5 To replace threads in the design palette, do one of the following:

- To replace all threads in the design palette, click the Replace All button.
- To replace design threads individually, select the color in the new thread chart (right-hand) column, and click the Replace button.

6 Click OK.

*The Match Color dialog will close, and the new thread colors will appear in the design.*

## Removing Threads

Unused threads can be removed from a thread chart or palette using the delete command of the Thread Manager.

### To remove threads:

- 1 Load a thread chart.
- 2 Select one or more threads you want removed from the thread chart.



To select multiple threads, press **Ctrl** while selecting individual threads or press **Shift** while selecting a group of threads.

3 To remove selected threads, do one of the following:

- Click the Delete  button at the top of the thread chart.
  - Press **Ctrl+D** on the keyboard.
- The selected thread or threads are removed from the thread chart.*

4 To save your changes, choose **File—Save**.

## Using Thread Charts

### Changing the Colors in Designs

Tajima DG16 by Pulse provides thread manufacturer charts you can use to add or change the thread colors in your design. The color palette on the left side of the screen is the default set of thread colors or the colors that are used in the active design.

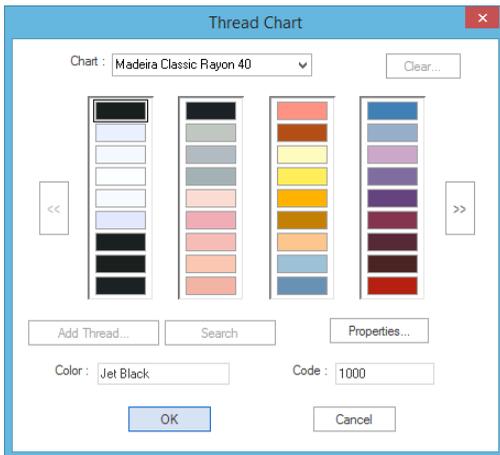
If your design is not a Pulse Embroidery File (\*.PXF), we recommend that you save your design as a Pulse Stitch File (\*.PSF). Some embroidery machine formats do not include thread color information. Saving your file as a \*.PSF allows you to recall the design with the same colors in the future.



### To change the colors in designs:

- 1 On the thread palette, right-click the color you want to change.
- 2 Choose **Thread Change** from the shortcut menu.

*You see the Thread Chart Dialog.*



- 3 In the Chart field, select the thread chart you want to choose from.
- 4 To select a color from the color chart, do one of the following:
  - ♦ In the Thread Chart Dialog box, use the left and right navigation arrows to browse through the colors in the color chart and select the color you want to use.
  - ♦ In the Color box, enter the name of the color you want to use and click Search.
  - ♦ In the Code box, enter the code of the color you want to use and click Search.
- 5 Click OK.

*The new color replaces the existing color in the design workspace.*

## Adding Custom Thread Colors to a Thread Chart

Using the Windows color palette, you can add new thread colors to a custom thread chart of palette. The available manufacturer's thread charts may not have all the colors you want or the colors are not a close enough match to your colors; therefore, you can create your own using the New Thread dialog.

### To add custom colors to a custom thread chart or palette:

- 1 Open a thread chart or palette.  
See "Loading a Thread Chart."  
*The selected thread chart or palette opens in a new tab.*
- 2 On the Menu bar, select Edit—New Thread  
*You see the Thread Property Page.*
- 3 Click the black square to change the thread color.  
*You see the Color dialog box.*
- 4 Select a color from the palette.
- 5 Click Add to Custom Colors.  
*You see the color appear in the Custom Colors squares.*
- 6 Click OK.
- 7 In the Color box, enter a name for the thread color.
- 8 In the Type box, enter the type of thread for the color.
- 9 In the Thickness box, enter a value for the thread thickness.
- 10 Click OK.  
*The new color is added to a custom Thread chart.*

## Removing a Color from the Custom Thread Chart

Use the following procedure to remove a thread color (or colors) from the custom thread chart.

### To remove a thread color from the custom thread chart:

- 1 Open a thread chart.  
See "Loading a Thread Chart."  
*The selected thread chart or palette opens in a new tab.*
- 2 In the thread chart, select the color or colors you want to remove.

- From the menu bar, select Edit—Delete thread...

*The thread(s) will be removed from the custom chart.*

- Click Save or Ctrl + S to save the chart.

## Working with Multiple Color Palettes

A design color palette is a set of colors that are stored with a design. Color palettes are located in the bottom left corner of the design window.

Tajima DG16 by Pulse allows you to have multiple color palettes for each of your designs. Multiple color palettes are useful for displaying designs in different color combinations and then storing these color combinations for future reference. Depending on the design file format, you can also save different background colors with each color palette. For more information on changing the background color, see "Changing the background color of the current window".

When you save a multiple color palette design as a Pulse Embroidery File (\*.PXF), the multiple color palette will be saved in the \*.PXF file. The saved active color palette will remain active the next time you load the \*.PXF file. The icon saved in the \*.PXF file will use the active color palette when you save your design file. Multiple color palettes saved as Pulse Stitch (\*.PSF) files will only have the active color palette saved with the design file.

When you start a new design, only one starting palette will be available. This palette uses colors from the default design palette. For more information on modifying the default color palette, see "Using the Thread Table Editor".

If you add a thread to one of the color palettes, the thread will be added to all color palettes. All color palettes must have the same number of needles.

To work with multiple color palettes, you should know how to do the following:

- Add new color palettes
- Change your color palettes
- Change the name of active color palettes
- Remove active color palettes
- Remove unused threads from the active color palette

## Adding a new Color Palette

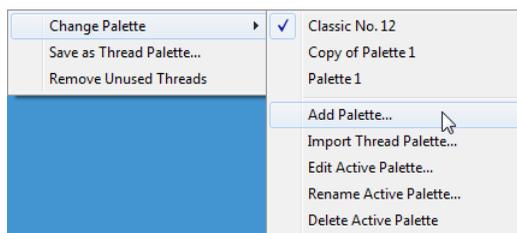
You can add a new color palette to the current design.



When you add new color palettes, you can also save different background colors with each palette.

### To add a new color palette:

- Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu.*
- Choose Change Palette—Add Palette.



*You see the Set Palette Name dialog. By default, the new palette name will read "Copy of" and have the name of the active palette attached at the end.*



- 3 Enter a new name for the color palette you want to add.
- 4 Click OK.

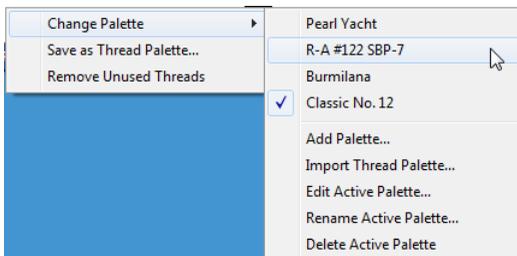
*The new palette will become active and appear in the list of palettes with the name you specified. The new palette will contain the same colors as the active palette when created, and can be edited in the Thread Palette manager.*

## Changing the Active Color Palette

It is easy to switch to a different color palette in Tajima DG16 by Pulse. When you change the color palette, all of the colors in the design will change to match the new active palette.

### To change to a different color palette:

- 1 Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu*
- 2 Choose Change Palette.  
*You see the list of current palettes.*



- 3 Select a different palette from the list.



The active palette is identified by the check mark next to its name.

*The selected palette will now be active and all colors in the design will change to match the new active palette.*

## Changing the Name of Active Color Palettes

Tajima DG16 by Pulse makes it easy to change the name of active color palettes.

### To rename active color palettes:

- 1 Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu*
- 2 From the menu, select Change Palette—Rename Active Palette.  
*You see the Set Palette Name dialog.*
- 3 Change the name of the active color palette.
- 4 Click OK.

## Preview Palettes

The Preview Palettes feature is new function on that allows you to preview how a design will appear when several different thread palettes are applied to it. The preview also displays the different background colors for each palette, if you have changed the background that is associated with each palette.

### To use Preview Palettes:

- 1 Open a design, and load at least two color palettes.

- 2 Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu*
- 3 Select Change Palette—Preview Palettes.  
*Previews of the design rendered in each active palettes will open in a new tab.*



Up to four different palettes will be displayed in the tab; if you have more than four palettes loaded, an additional page (or pages) will be generated in the Preview tab; click on the Next and Previous buttons to move between the pages.



## Removing Active Color Palettes

You can remove active color palettes in Tajima DG16 by Pulse. When you delete a palette from the list of palettes in the menu, the remaining palettes are renumbered. For example, if Palette 2 is deleted, Palette 3 becomes Palette 2, etc. If you delete the last palette in a design, the list of palettes will update in the menu and the new last palette becomes active.



There must always be at least one palette per design.

### To remove an active color palette:

- 1 Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu*
- 2 From the context menu, select Change Palette—Delete Active Palette.  
*The active palette is deleted.*

## Removing Unused Threads from the Palette

Tajima DG16 by Pulse makes it easy to remove unused threads from your active color palette.

### To remove unused threads from the active color palette:

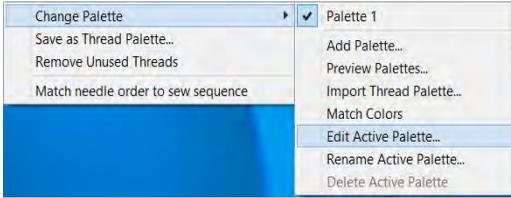
- 1 Right-click anywhere on the design color palette.  
*You see a context menu.*
- 2 Choose Remove Unused Threads.  
*You see the active color palette altered to show only those threads used in your current design.*

## Editing the Active Palette

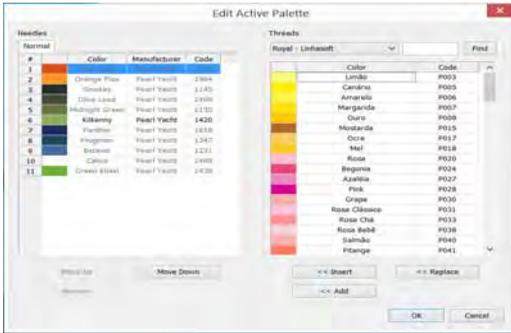
The Edit Active Palette window makes it easy to make changes to the threads on the needles in the active palette. You can change the order of the threads, add new threads from any of the available thread charts, and remove threads from the active palette.

### To edit the Active Palette

- 1 Click the Palette  button at the bottom left-hand corner of the workspace.  
*You see a context menu*



- 2 On the context menu, select Change Palette—Edit Active Palette.  
*You see the Edit Active Palette dialog.*



- 3 From the drop-down list at the top right, select the thread chart you want to use to edit the active palette.  
*The colors in the selected chart will now populate the Threads panel on the right side of the dialog*



To look for a particular color in the selected thread chart, enter the color name (or code number) in the “search” box at the top of the Threads panel, and click Find.

- 4 To Edit the Active palette, do one or more of the following:
  - ♦ To change the order of a color in the active palette, select it and click on either Move up or Move down.

- ♦ To remove a color from the active palette, select it and click the Remove button.



Only those threads that are not currently assigned to a segment in the current design can be removed.

- ♦ To add a thread to the end of the list of needles, select one of the threads from the thread chart and click Add.
- ♦ To insert a new thread in a specific position in the active palette, select the color in the active palette immediately following the position you want the new color to go then, select the thread you want to add from the chart and click Insert.
- ♦ To replace one of the threads in the active palette, select it, select the replacement thread from the chart, and click the Replace button.

- 5 Click OK.

*The active palette will now appear as edited, and the colors in the open design will be modified accordingly.*





# CHAPTER 7

## Viewing Designs

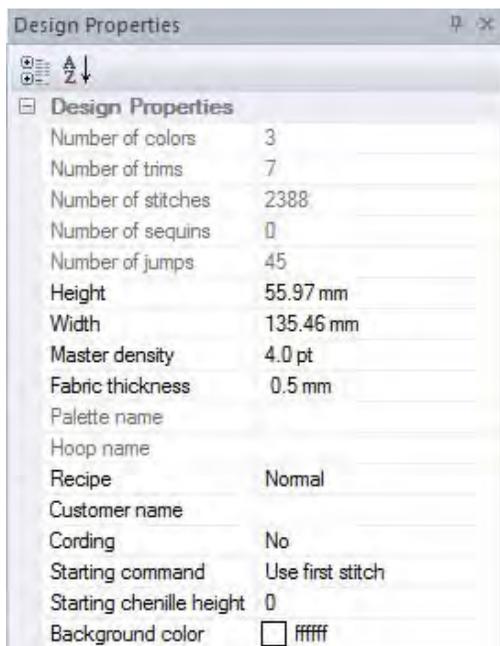
Tajima DG16 by Pulse gives you the methods you need to view your designs with accuracy. You can view your entire design on-screen or pan to view only parts of your design not visible in the design workspace. Changing the background color of your design window and altering how you view segments is simple when using the Tajima DG16 by Pulse viewing buttons. If you want to view the location on a design where the embroidery machine performs commands, such as trims or jumps, you can use various Show Commands available.

*Topics covered in this chapter:*

- Viewing the Properties of a design
- Viewing tools, buttons, and commands.
- How to show and hide stitches, outlines, and stitch points.
- The Show Repeats feature.

## Viewing the Design Properties

The Design Properties panel is a dockable window in the Tajima DG16 by Pulse workspace. This panel displays those settings that relate to the design as a whole. These include the number of colors, trims, the overall design dimensions, as well as many other attributes of the design.



The Design Properties panel is open by default when you first open Tajima DG16 by Pulse; however, if it is closed, you can show it again from the menu bar - select View—Toolbars and Docking Windows—Design Properties.

Some of these attributes (such as the number of colors, number of stitches), are just inherent properties of the design, and so cannot be edited in the panel; however, if the design is edited, these attributes will be updated. For

example, if you change the size of a segment of the design, and regenerate, the number of stitches displayed will update automatically.

Other attributes, such as design width, height, and the recipe, can be altered in the Design Properties panel.



If the design file is a combined or outline file (.PXF, for example) the stitches will be regenerated when the design is resized; but be aware that for stitch files, regeneration does not occur, so use caution when resizing these files.

## Changing the Background Color of the Workspace

Depending on the type of artwork you are using or the type of design you are creating, you may want to change the background color of your window.

For example, if you are creating a design with light color threads, you may want your background darker so that the stitches are more visible on-screen.

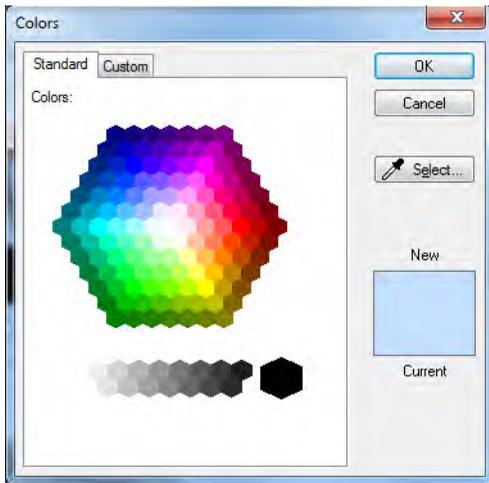
### To change the background color of the Workspace:

- 1 Click on the color change button.



The color change button is located to the bottom-left of the workspace, to the left of the thread palette bar.

*You see the colors dialog.*



- 2 Choose either the Standard tab or the Custom colors tab, and select the desired color from the dialog.
- 3 Click OK.

*The new color chosen replaces the old color on your design workspace.*

You can also use the Colors dialog to select one of designs directly from your design.



Click the Select  button, and move the mouse over an area of the design containing the desired color (the mouse pointer will change to an eyedropper). Click to select the color, and click OK in the Colors dialog.

## Viewing the Properties Bar

The Properties Bar is a feature of the Tajima DG16 by Pulse workspace that gives quick access to a number of the most frequently-required settings. It appears along the top edge of your workspace.

The settings that appear on the Properties Bar change according to the type of segment selected.



Only a selected number of the Properties belonging to a given segment type will be shown on the Properties bar. To see all the properties of pertaining to the segment, open up the Properties Panel.

See “Viewing the Design Properties”.

To show or hide the Properties Bar, in the menu bar, select View—Properties bar.

## Viewing Methods and Tools

### Magnifying and reducing the view

Use Zoom to magnify or enlarge parts of your design. Reducing a design lets you see more of your design on-screen. With Zoom you can either left-click to enlarge your design or right-click to make your design smaller.

#### To use Zoom:

- 1 Choose View—Zoom.  
*The pointer becomes a magnifying glass with a plus sign.*
- 2 Left-click the design.
- 3 Do one of the following steps:
  - ♦ Right-click to make your design smaller.
  - ♦ Left-click that area to zoom-in on a specific area.

#### To zoom-in on a specific area:

- 1 Choose View—Zoom.  
*The pointer becomes a magnifying glass with a plus sign.*
- 2 Click and hold your left mouse button and drag to form box around the specific area you want to see in detail.
- 3 Drag the mouse across the area you want to zoom-in until it is inside the box.

**4** Do one of the following steps:



You can also press 1 on your keyboard to zoom back to the original design size.

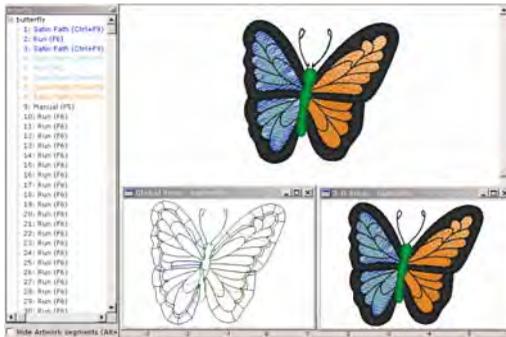
- ◆ To increase the zoom continue clicking and dragging the flexible box. By doing so, you can view a single stitch.
- ◆ In the View toolbar, click the Back to 1:1  tool to zoom back out.

**To disable Zoom:**

- In the Edit toolbar, click the Select  tool once you get to the level of magnification you want.

## Viewing Designs

You can view designs in a variety of ways using one of the options in the Multi View Paradigm. The different views are Enhanced Main View, Global View, Segment List, Element List, and 3D View.



### Multi-view Paradigm

**Viewing a design in Enhanced Main View:**

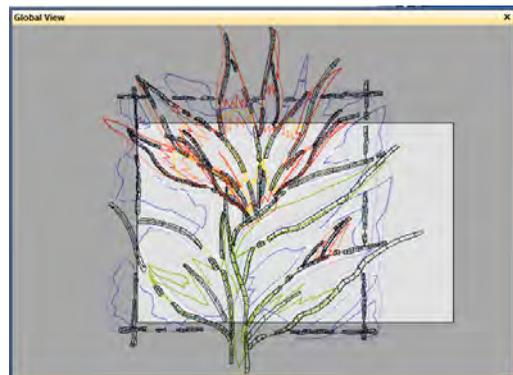
- Open the design.  
*The design opens in Enhanced Main View.*

**Viewing a design in Global View:**

- 1 Open the design.
- 2 Select View—Toolbars and Docking Windows—Global View.

*You see the Global View Panel.*

*The area of the design workspace appears as a rectangular area, with the same background color as your workspace; the portion of the design outside of the boundaries of the workspace will be a darker version of the background.*



- 3 To change the part of the current design that appears in the design window click and drag.  
*The view of the design in the main design window will change to correspond to the area within the frame.*

**To view a design in 3D View:**

- 1 Open the design.
- 2 Select Window—3D View.  
*You see the 3D View option dialog box.*
- 3 Click OK.  
*You see the design in 3D view.*

**To view 3D stitches in the Main View:**

- 1 Open the design.
- 2 Click the Show 3D Stitches  tool in the active window.

- 3 Click the Show 3D Stitches  tool again to remove 3D stitches.

### To view the Segment List:

- 1 Open the design.
- 2 Do one of the following:
  - ♦ Select Window—Segment List.
  - ♦ Press Shift + T

*You see the Segment List.*



To hide artwork segments in the Sequence View and on your design workspace, click Hide Artwork .

### To view the design's Element List:

- 1 Open the design.
- 2 From the menu bar, Select View—Toolbars and Docking Windows—Element List.

*You see the Element List (Sequence View) panel.*



To hide artwork segments in the Sequence View and on your design workspace, click Hide Artwork .

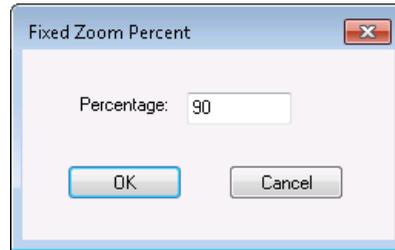
## Zoom Percentage

The Zoom to %  tool is a new feature of the View toolbar. Using this tool, the zoom level can be pre-set to a custom degree of magnification. Once set, just clicking this tool once will zoom in or out to the specified magnification.

### To set the Zoom percentage:

- 1 On the View tool bar, right-click the Zoom to Percent tool.

*You see the "Fixed Zoom Percent" dialog.*



- 2 Type the desired level of magnification into the Percentage field.
- 3 Click OK to close the dialog.  
*The zoom percentage will now be set.*

## Viewing a design in actual size

Click the Back to 1:1  tool to have the design appear within its true measurements where 1 centimeter equals 1 centimeter on-screen. The rulers change to match the number of centimeters or inches that the design measures. Back to 1:1 is useful when you have used Zoom and want to go back and view the design based on its measurements.



You can also press 1 on your keyboard to go back to the original design size.

### To use the Back to 1:1 tool:

- In the View toolbar, click the Back to 1:1  tool to see the original design size.

## Viewing the whole design on-screen

Fit to Window allows you to view your whole design in the active window, as well as any loaded images. For example, after using Zoom to examine different parts of your design, you may want to see the design as a whole before you close it or send it to the machine.



You can also press 2 on your keyboard to view your whole design on-screen.

### To view your whole design on-screen:

- In the View toolbar, click the Fit to Window



tool.

## Viewing a design Selection on-screen

The Fit Selection to Window command allows you to fit the current segment selection to the design window. You can use this command to focus on a specific area of a design.



You can also press 4 on your keyboard to view your design selection on-screen.

### To view a design selection on-screen:

- 1 Select one or more segments from the design window.
- 2 Choose View—Fit Selection to Window.  
*The selected segments will fill the entire design window.*

## Full Screen Mode

There is a full-screen view available for Tajima DG16 by Pulse. In full-screen mode, the workspace expands as to the maximum size that fits your screen.



In Full Screen Mode, the toolbar buttons will be hidden. So it is most useful for digitizers who are used to working with the keyboard shortcuts.

### To enter Full Screen mode:

- Do one of the following:
  - ♦ From the menu bar, select Window—Full Screen.
  - ♦ Press Shift+F12 on your keyboard.

### To exit Full Screen mode:

- Do one of the following:
  - ♦ Click “Close full screen” in the workspace.
  - ♦ Press Shift+F12 again.

## Panning in the Design Workspace

To move the design around within the design window, you can use the panning function. To pan within the design, hold down the **Spacebar**, and then click and drag with the mouse; you will notice that while the Spacebar is depressed, the pointer will change into a

Pan icon , to indicate that you are in Panning mode.



You can change into panning mode from whichever tool is currently in use. When you release the Spacebar, Tajima DG16 by Pulse will switch back to the tool you were just using.

You can also pan using the keyboard; use the following keys to pan around the workspace:

- Up arrow  to move up.
- Down arrow  to move down.
- Left arrow  to move left.
- Right arrow  to move right.
- **Home** to move left and up.
- **End** to move left and up.
- **Page Up** to move right and up.
- **Page Down** to move right down.

# Viewing Buttons

## Creating and Deleting Custom Segment Filters

You can show, hide, sort, and edit segments in a design window by stitch types or by thread colors. You can create custom segment filters to show the stitch types and thread colors that you want. You can also delete custom filters that you no longer need.

### To create a custom segment filter:

- 1 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 2 Set up the Segment Filter to hide the thread numbers and stitch types you want for your custom filter as described in Showing and hiding outline segments.
- 3 In the Filter name box, enter a name for your custom filter.
- 4 Click Save.

### To delete a custom segment filter:

- 1 In the Filter name box, select the name of the custom segment filter you want to delete.
- 2 Click Delete.

## Showing and Hiding Outline Segments

In Tajima DG16 by Pulse you can show and hide outline segments in various ways. You can use the Segment Filter dialog to show and hide outline segments and change how you sort and view segments in the design window.

You can also use other ribbon tools, such as the Hide selected segments tool or Show outlines tool, to quickly show and hide segments as well as segment outlines.

## Showing and hiding segments using the Segment Filter

You can show, hide, sort, and edit segments in a design window by stitch types or by thread colors. By default, all stitch types and thread colors show in the design window. When you alter the default settings, the next time you use Segment Filter, those selections are used. You can select single or multiple thread numbers or stitch types to show or hide. You can also select a segment or segments in a design and hide the unselected segments.



If you make a mistake, click Reset to clear the Show and Hide box.

### To hide outline segments:

- 1 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 2 In the Threads area, select the thread numbers you want to hide.
- 3 Click the move right button  to move the threads to the Hide list.
- 4 In the Stitch Types area, select the stitch types you want to hide.
- 5 Click the move right button  to move the stitch types to the Hide list.
- 6 Click OK.

### To show outline segments:

- 1 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 2 In the Threads area, select the thread numbers you want to show.
- 3 Click the move left button  to move the threads to the Show list.
- 4 In the Stitch Types area, select the stitch types you want to show.

- 5 Click the move left button  to move the stitch types to the Show list.
- 6 Click OK.

### To hide unselected segments:

- 1 Select the segments you want to view.
- 2 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 3 Select the Hide unselected segments (Ctrl+H) check box.
- 4 Click OK.

### To hide selected segments:

- 1 Select the segments you **do not** want to view.
- 2 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 3 Select the Hide selected segments (Shift+H) check box.
- 4 Click OK.

### To show all hidden segments:

- 1 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 2 Select the Show all hidden segments (Shift+Ctrl+H) check box.
- 3 Click OK.

## Using Ribbon tools to show and hide segments and outlines

You can use ribbon tools to hide selected segments, hide unselected segments and show all hidden segments. The Show outlines tool also allows you to show and hide segment outlines in any embroidery design.

### To hide selected segments:

- 1 Select the segments you **do not** want to view.

- 2 Click the Hide selected segments  tool.

### To hide unselected segments:

- 1 Select the segments you want to view.
- 2 Click the Hide unselected segments  tool.

### To show all hidden segments:

- Click the Show all hidden segments  tool.

### To show segment outlines:

- Click the Show outlines  tool, if not already selected.  
*You see the segment outlines in your design.*

### To hide segment outlines:

- Click the Show outlines  tool again.  
*The segment outlines will be hidden.*

## Filtering segments by properties

Tajima DG16 by Pulse allows you to easily show or hide segment properties in your designs. Use the Segment Filter  tool to search through your design's segments to determine which segments should be shown or hidden in the design window. The Show button will show the design segments containing all the settings specified. The Hide button will hide the design segments containing all the settings specified.

**To show segments based on segment properties:**

- 1 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 2 In the Segment Properties area, click Show.  
*You see a Segment Settings dialog. The dialog contains all the settings available for designs in Tajima DG16 by Pulse.*
- 3 In the Segment Settings dialog, click one or more property page and adjust any of its settings. The settings you adjust will allow you to filter and show all the segments in your design that meet the specified criteria.
- 4 Click OK in the Segment Settings dialog.
- 5 Click OK to close the Filters dialog.

**To hide segments based on segment properties:**

- 1 Click the Segment Filter  tool.  
*You see the Filters dialog box.*
- 2 In the Segment Properties area, click Hide.  
*You see a Segment Settings dialog. The dialog contains all the settings available for designs in Tajima DG16 by Pulse.*
- 3 In the Segment Settings dialog, click one or more property page and adjust any of its settings. The settings you adjust will allow you to filter and hide all the segments in your design that meet the specified criteria.
- 4 Click OK in the Segment Settings dialog.
- 5 Click OK to close the Filters dialog.

**Showing and Hiding Machine Commands**

Use Show Commands to view the locations on the design where the embroidery machine performs commands. These locations are marked with different symbols to display the command type.

**To show commands:**

- Click the Show Commands  tool in the window.

**To hide commands:**

- Click the Show Commands  tool again.

The following table shows you the symbol for each command.

Command	Symbol
Trim	
Trim-Jumps	
Borer On	
Borer Off	
Two Stops	
High Speed	
Low Speed	
Stop	
End	
Start	
Jump	
Blank	No symbol
No Command	No symbol
Color Change	
Changeover	
Changeover Movement	
Sequin Start	
Sequin End	

Command	Symbol
Drop Sequin	
Frame Out	
Three Stops	

## Showing and Hiding the Stitch Placements

Use the Show Dots  tool to see the anchor points and stitch penetration points in the design window. The blue squares in your design represent the anchor points that control the shape of the design. The black dots in your design represent the penetration point of the embroidery machine needle.

### To show the stitch placements:

- 1 Click the Show Dots  tool in the active window.



You can also press Shift + P to show and hide the stitch placements.

- 2 To select the type of dots you want displayed in your design, do one or more of the following:
  - To view anchor points, right-click the Show Dots  tool and select Outline Dots from the menu, if not already selected.
  - To view stitch penetration points, right-click the Show Dots  tool and select Stitch Dots from the menu, if not already selected.

### To hide the stitch placements:

- Click the Show Dots  tool again.

## Showing and Hiding Beads

You can show or hide the beads in a design window. Positioning beads along paths allows you to change exit and entry points, the angle of stitches, and in some levels of the software you can apply custom corners. Depending on what you are editing, you can view the beads specific to the type of segment.

### To show beads:

- 1 Click S on your keyboard to activate the Select  tool.
- 2 Select the design or the segment.
- 3 Click the Show Beads  tool. Click the down-arrow next to the Show beads icon. *You see a shortcut menu listing the bead types available in your Tajima DG16 by Pulse level.*
- 4 Select the beads types you want to view.
  - Start Beads
  - Stop Beads
  - Angle Line Beads
  - Corner Beads (not available in all levels of the software)*The bead types you select for viewing are indicated by a check mark.*
- 5 To hide a bead type, remove the checkmark beside its name.

### To hide beads:

- Click the Show Beads  tool again.

## Showing and Hiding Stitches

If you are using the Show Stitches  tool to view stitches in the design window, you first need to generate the stitches. By generating

and showing stitches, you can see what the stitches look like in your design file.

### To show stitches:

- 1 Select the segment.
- 2 Press **G** to Generate Stitches.
- 3 Click the Show Stitches tool.

### To show stitches in a segment or group:

- 1 Select the segment.
- 2 Press **G** to Generate Stitches.



You can press Shift + G to generate stitches for all the segments in your design.

- 3 Choose View—Stitches in Outline Window—Show Active Group.
- 4 Click the Show Stitches tool.  
*You can now view the stitches of the active segment.*

### To hide stitches:

- Click the Show Stitches tool again to view regular outlines.

## Showing and Hiding Grids

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

### To show the grid:

- Click the Show Grid  tool in the active window or choose View—Grid Settings—Show Grid.

### To hide the grid:

- Click the Show Grid  tool or choose View—Grid Settings—Show Grid.

## Defining Grid Settings

The Grid Settings help you align and measure artwork and design elements. You can set the grid to measure in centimeters or inches

according to your preference. When you are working on a design file, you can display the grid by clicking the Show Grid tool on your ribbon.

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 now change the color of the major and minor grids. You should choose separate colors for each grid type.

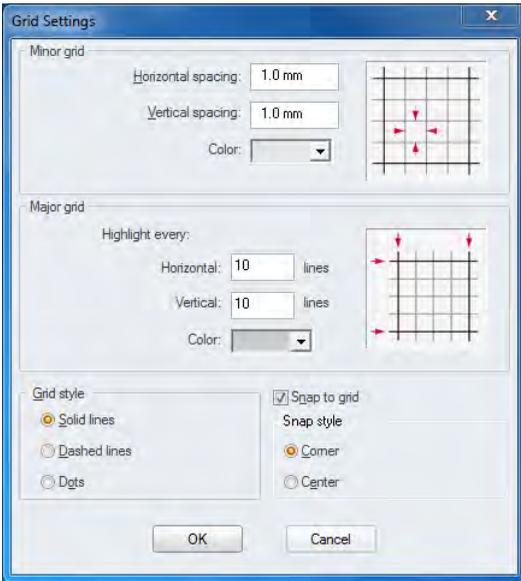
## Tips

- Turn on Snap to Grid to make sure that segments are aligned along the grid lines when you move them. When you draw baselines for lettering or paths for shapes, those paths and baselines snap to increments that correspond with the grid. Press **Shift + backspace** on your keyboard to turn off Snap to Grid.
- You can show and hide grid lines by clicking the Show Grid  tool.

### To define grid settings:

- 1 Do one of the following:
  - Choose View—Grid—Settings...
  - Right-click on the rulers at the left or bottom of the window.

*You see the Grid Settings dialog.*



- 2 In the Minor grid area, complete the following:
  - ◆ In the Horizontal spacing box, enter the measurements for horizontal spacing in millimeters or inches.
  - ◆ In the Vertical spacing box, enter the measurements for vertical spacing millimeters or inches.
  - ◆ In the Color list, select a predefined color to use for the minor grid. If you want to choose from a larger selection of colors, click More Colors from the color box.
- 3 In the Major grid 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.

- ◆ In the Color list, select a predefined color to use for the major grid. If you want to choose from a larger selection of colors, click More Colors from the color box.
- 4 In the Grid style area, select one of the three grid styles.  
*You can choose from solid lines, dashed lines, or dotted lines.*
  - 5 (Optional) Check the Snap to Grid checkbox to cause segments to fasten to the grid.
  - 6 Select one of the following Snap styles:
    - ◆ Corner: the outline of the segment will snap to the nearest node (corner) of the grid.
    - ◆ Center: the outline of the segment will snap to the mid-point between nodes (corners) of the grid.
  - 7 Click OK.

## Showing and Hiding 3D Stitches

Use the Show 3D Stitches  tool to preview a realistic 3D view of your design.



You can also press 3 on the keyboard to show/hide 3D stitches.

### To show 3D stitches:

- Click the Show 3D Stitches  tool in the active window.

### To hide the 3D stitches:

- Click the Show 3D Stitches  tool again in the active window.

## Showing Repeats

The Show Repeats option, displays repeated "ghost" images of a design in your workspace. These images are useful for checking alignment, such as when you are creating designs in which multiple heads will be used to sew out contiguous elements of a large design. The repeat images are displayed in a monochrome hue, so that they are easily distinguished from the original design.



### To display repeats:

- Do one of the following:
  - ♦ Select the Show Repeats  button on the ribbon.
  - ♦ Press Alt + R.



To hide repeats, click the Show Repeats button again, or press Alt+R again.

When Show Repeats is on, you see the stitches in your design repeated, showing the relative orientation of the next instance of the design. Depending on the settings you enter in the Show repeats dialog, the "ghosted" stitches will appear above, below, left, right (or all of the above) your design.

You also set the amount of displacement of the repeated image from your original using the Show Repeats dialog.

## Show Repeats Settings

To open up the show repeats dialog and change your options, right-click the Show Repeats  button. This opens a dialog box in which you can manage all the settings relating to how repeats will display in the workspace. There are two types of Repeat Settings: **Design** and **Pattern**.

**Design Repeats:** When you select Design Repeats in the Repeat Settings dialog, the position of the repeat images is determined by the size of the embroidery area that you enter in the Width and Height fields. This area represents the sewing area of a single head of the machine.



You can specify the amount that this area will overlap with the sewing field adjacent heads, by selecting a value in the Overlap field. (The two given values are 16 mm and 60 mm, reflecting the specifications of current machines; however, it is possible to insert a different amount by typing it in.

In the Direction field, select whether to show the repeats along the horizontal axis (X), the vertical axis (Y), or both (X and Y).

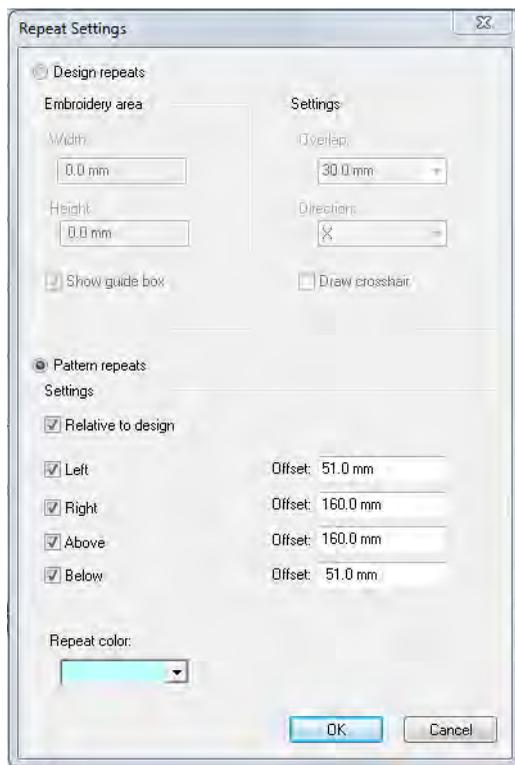
The Show guide box option is selected by default, and appears in the workspace window as a black outline box, centered over the design; the dotted lines show the range of the overlap (if any) selected.



Select the Draw crosshair option if you want to show crosshairs on the design.

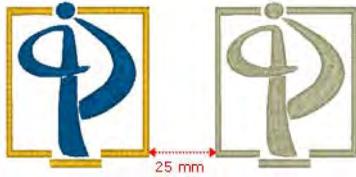
**Pattern Repeats:** When you select to show Pattern repeats, the effect is similar to Design repeats, but the amount of offset is based on the size of the embroidery design, rather than the size of an the sewing field. Therefore, in this case, there are no width and height settings, since the system takes these dimensions straight from the design itself.

Within Pattern repeats, you have the option of showing the repeat in any (or all) of the four cardinal directions; left, right, above, and below.



Unlike Design repeats, the Pattern repeats area has separate settings for the offsets; you type in a distance to determine the offset distance of repeat image individually for each direction.

**“Relative to Design” Setting:** This option is only applicable to the Pattern Repeats offset settings. When this box is checked (the default setting), the repeat image will be offset relative to the whole design - the software takes the edge of your design as a boundary line, adds the distance you type into the offset box, and produces the repeat image at that point.



Relative to Design selected, with an offset of 25 mm to the right (relative offset).



Relative to Design deselected, with an offset of 25 mm to the right (absolute offset).

When you uncheck the Relative to Design box, the offset becomes an absolute offset - each point of the repeat image is displaced relative to the corresponding point in the original, rather than to the edge of the original.

 The Repeat color option, at the bottom the Repeat Settings dialog, opens up a color chooser dialog. You can use this dialog to select the hue that the repeat stitches will be displayed in.

## Viewing the Sewing Order of Designs

You can view the sewing order of designs by using the draw ribbon tools located on top of the design workspace.

 If the Draw Ribbon is hidden, you can display it by pressing the Draw Ribbon  tool.

The speed control determines the speed at which the design is drawn on the screen. You can slide the speed control from left to right to vary the rate of sewing.

To view the sewing order of a design and adjust the drawing speed, use any of the following sewing simulator settings from the Draw Ribbon:



For more information on using Draw Ribbon tools, see "Draw Ribbon Tools".

Tools	What is does
	<b>Play backward one stitch:</b> Move backward in the design by one stitch.
	<b>Play forward one stitch:</b> Move forward in the design by one stitch.
	<b>Play backward one color:</b> Move backward in the design to the beginning of the previous color or selected command.
	<b>Play backward:</b> Move backward through the design.
	<b>Pause:</b> Pause the design while drawing.
	<b>Stop:</b> Stop the design while drawing.
	<b>Play forward:</b> Move forward through the design.
	<b>Play forward one color:</b> Move forward in the design to the beginning of the next color or selected command.
	<b>Speed Control:</b> Slide the speed control to vary the rate of sewing.

# Viewing Commands

## Displaying a Hoop While Designing

Viewing the hoop or frame on-screen lets you ensure that your design fits properly when you run it on the machine. The hoop serves as a guide to help size and position your design in the design window. Tajima DG16 by Pulse comes with many different pre-loaded hoop sizes.



You can also create your own hoops using advanced versions of Tajima DG16 by Pulse or programs like CorelDRAW™ and AutoCAD™. You can Load, Remove, Hide, and Rotate 90° any hoop you load.

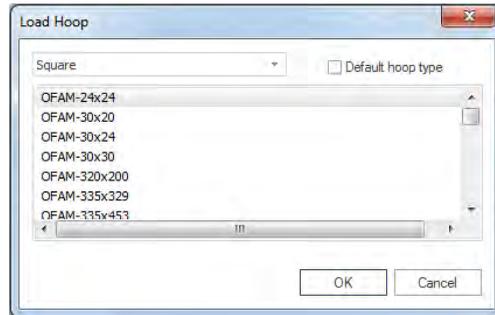
### To load a hoop:

- 1 On the Ribbon, select the Hoop tab.  
*You see the Hoop tools.*
- 2 On the Hoop tab, click the Load  tool.  
*You see the Load Hoop file dialog box.*
- 3 The hoops are organized into different categories (Auto Clamp Frame, Cap, Round or Square); select the desired category from the drop-down list.



If you use one of the hoop categories more often than the others, select that category from the list, and then check “Default hoop type”; the next time you load a hoop, that category will be selected by default.

*The list of hoop files of the selected type will be displayed in the Load Hoop dialog.*



- 4 Select the hoop size that you want.
- 5 Click OK.  
*You see the selected hoop in your design window.*

### To remove a hoop:

- On the Hoop tab, select the Remove  tool.  
*The hoop is removed.*

### To rotate the hoop 90°:

- On the Hoop tab, select Rotate 90  tool.  
*The hoop is rotated through a 90° angle.*

## Auto Hoop

The Auto Hoop function automatically loads a hoop that optimally fits the current design.

### To load a hoop with Auto Hoop:

- 1 On the Ribbon, select the Hoop tab, and click the Auto Hoop  tool.  
*You see the Select Folder dialog.*
- 2 Select the hoop type (i.e. directory in the Hoops folder) from the dialog; the Auto Hoop tool will select the best fit from the hoops of this type.

- 3 Click OK.  
*The hoop will now appear in the workspace, centered on the design.*
- 4 **Optional:** You can adjust the Hoop sizes up and down incrementally by click the Auto +  and Auto Hoop -  buttons



If there is no hoop in the chosen directory that will fit the design, an error message will appear, and the current hoop size will remain in place.

## Finding Potential Stitch Problems

You can see possible problems in your design before you sew it out. You can set various lengths for stitches. Any stitches outside the set ranges are highlighted to warn you of potential problems that could cause thread breaks, needle breaks, and undesired machine stops.

### To view stitch problems:

- Press Ctrl + P. The stitches outside you set range will be highlighted. (To hide the markers, press Ctrl + P again).

## Hiding Outlines in Design Files

Tajima DG16 by Pulse allows you to hide the outlines in your design window and focus on the stitches in your design file. You can use the Hide Outlines option to temporarily remove outlines from your view.

### To hide outlines:

- Do one of the following:
  - ♦ On the ribbon, select the Show Outlines  button.
  - ♦ Press Shift+X.

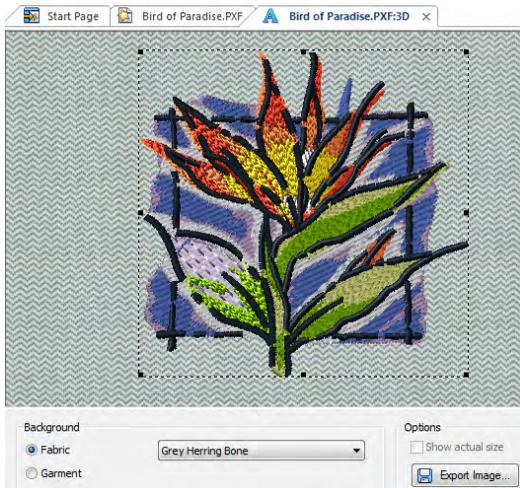
## Previewing Designs Using the 3D View Dialog

The 3D view helps you by taking some of the guesswork out of embroidering; you can use this feature to preview an image of the active design against a background of pre-loaded fabric or garment images.

The 3D view also allows you to move the design around on the background, and export an image of the design and background together.

### To set Display options:

- 1 Open a design.
- 2 Select Window—3D View.  
*A new workspace tab opens, displaying the design against a background.*
- 3 To preview the design against a fabric background, do the following:
  - ♦ Under “Background,” select the Fabric radio button.
  - ♦ From the drop-down list, select one of the available fabric images.  
*The design will now show the selected fabric in the background.*



An example of a design in fabric preview.

- 4 To preview the design displayed on a garment, do the following:
  - ◆ Under Background, select the Garment radio button.
  - ◆ From the drop-down list, select one of the garments available.

*The design will now be displayed on the selected garment. You can adjust the position of the design at this point by clicking and dragging.*

- ◆ (Optional) Check “Show actual size”; when this option is selected, the preview will show the design at its actual size, rather than the size it would be scaled to the garment.



An example of a design in garment preview

- 5 To save an image file of the design on the selected background (in \*.jpg format), click on the Export Image... button.  
*You see a Save as... dialog; by default, the image will be saved with the same name as the original file, but the name can be changed in the dialog.*
- 6 Browse to the directory you want to save to, and click Save.

## Viewing a Design by Thread Color Order

Viewing a design by thread color lets you view the stitches in your design window one color at a time, which is important for viewing a design’s sewing sequence. The View by Color command follows a design’s thread color order. For example, if Thread 1 is red, Thread

2 is blue, and Thread 3 is yellow, when you select View by Color, all your red stitches appear first, blue stitches second and so on.

### To view a design by thread color:

- 1 Choose View—Draw Ribbon.
- 2 From the draw ribbon, click the draw ribbon mode setting  tool.

*You see the Draw Ribbon Setting dialog.*

- 3 In the Stop at area, select one or more machine commands you want the Play backward one color button and Play forward one color button to pause at as the design sews out. For example, you can enable the design to pause its drawing whenever it encounters a trim. If you do not select any commands, the design will pause at all color changes while drawing.
- 4 To view your design by thread color, do any of the following continuously:
  - ♦ Choose View—View by Color.
  - ♦ Press V on your keyboard.

*Each time you repeat one of these commands the next color appears, following the thread order in the thread palette.*

- 5 To cancel, press **ESC** on your keyboard.



# CHAPTER 8

## Working with Embroidery Machines

Tajima DG16 by Pulse allows you to work with various embroidery machines to create beautiful designs. You can change the settings of installed embroidery machines or add additional embroidery machines. To view on-screen what is happening on any machine, you can use Tajima DG16 by Pulse's Machine Status feature.



When working with embroidery machines, advanced users may want to modify machine format properties as well. For more information on changing machine format properties and settings, see the "Using Machine Formats" section.

*Topics covered in this chapter:*

- How to add and remove embroidery machines.
- Changing the embroidery machine settings.
- Setting up the embroidery machine output settings, start and end locations, and the Stitch Generations settings.
- Machine clustering.

## Adding Embroidery Machines

Before you can add embroidery machines, you must configure the location and setup design spoolers.

## Configuring the Design Spooler

Design Spooler is a service that manages the delivery of designs to embroidery machines using cables. Design Spoolers make it easy to connect to embroidery machines.

When your computer is started, design spooler starts automatically. You can also start and stop design spooler from the Start menu, if necessary. To start design spooler, choose Start—Programs—Tajima —DG16 by Pulse—Start Design Spooler. To stop design spooler, choose Start—Programs—Tajima—DG16 by Pulse—Stop Design Spooler.



Tajima DG16 by Pulse can access multiple spoolers over a network or always use the spooler running on the local computer; by default you will have access to the machines connected directly to your computer.

### Important Note: Reading in designs using bar code readers

If you have an embroidery machine that has a bar code reader, this allows you to pull designs directly – either from a directory on your machine, or from a folder on your Librarian database. However, in order to use these methods of machine input, you must configure your Design Spooler to be able to upload designs directly to the embroidery machine. See steps 4) and 5), below.

### To configure your design spoolers:

- 1 Choose Tools—Configuration—Spooler Settings.  
*You see Design Spooler Settings dialog.*
- 2 From the Design Spooler Location list, select one of the following options:
  - ♦ **Always use the spooler running on local computer.** This setting allows you to only use the embroidery machines connected directly to your computer.
  - ♦ **Locate all spoolers on the Network.** This setting allows you to connect to embroidery machines available on your network.
- 3 In the Design Spooler Settings area, complete the following:
  - ♦ From the Design Spooler Host list, select a design spooler. The configuration settings for the selected spooler will be displayed and you can make changes accordingly.
  - ♦ From the Queue Type list, select one of the following:
    - ♦ **Multiple (Default).** Create a separate design queue for each embroidery machine.
    - ♦ **Single.** Create one queue for all the embroidery machines connected to this design spooler. This option is only available to machines that support downloading or pulling a design file from the machine's control panel (LAN or multi-directional serial machines).
  - ♦ From the LAN Machine Support list, select one of the following ways to control how to communicate with LAN enabled embroidery machines:
    - ♦ Disabled.
    - ♦ Enabled.



Only one design spooler can have this setting enabled at one time.

- ◆ From the Data Collection Database box, browse to the location where reporting data is created.
  - ◆ From the Template Directory box, browse to the location that contains text template files. These templates are used on the PDA based Pulse software.
- 4 If you want to be able to “pull” designs directly from a folder onto the embroidery machine using a bar code reader, do the following in the Folder settings Area:
- ◆ Check “Allow Design Spooler to access folder” to allow the Design Spooler access to designs in the Designs for Barcoding folder.
  - ◆ If necessary, click the Browse button to change the folder where barcoded designs will be pulled from.
- 5 If you want to be able to “pull” designs directly from a the a Librarian database onto the embroidery machine using a bar code reader, do the following in the Librarian Settings area:
- ◆ Check the box to allow the Design Spooler to access designs stored in the library.
  - ◆ Click Settings...
- The Librarian Settings dialog opens.*
- ◆ In the Librarian Settings dialog, enter the following:
    - ◆ Enter the user information for the Librarian Enterprise server (user name and password) you will be sending the designs from.
    - ◆ Database Information (Database Name, Download Count)
    - ◆ Server information (Server Address, Port)
  - ◆ Click OK.
- 6 To save your changes, click Apply.
- 7 To close, click OK.

## Setting up Design Spoolers

You must set up design spoolers before you can add, edit or remove its associated embroidery machines.

### To set up design spoolers:

- 1 On the Ribbon, select the Tools tab.
- 2 Select the Machine Settings  tool.  
*You see the Register Machines dialog, listing all embroidery machines on the available Design Spoolers.*
- 3 Add, edit or remove machines connected to design spoolers. For more information, see the appropriate sections below.

## Starting and Stopping Design Spoolers

Design Spooler is a service that starts automatically when you start your computer. If necessary, you can also start and stop design spoolers from the Windows Start menu.

When you install a new version of Tajima DG16 by Pulse on your computer, you can start design spooler from a previous version of the software if needed. In this case, you must stop the design spooler service from the Start menu. Then you must start design spooler from the specific file directory that Tajima DG16 by Pulse is installed. From this program file directory, double-click the Start Design Spooler file and a script dialog appears. Once the script runs in the dialog, you a Windows Security Alert dialog appears. To prevent the program from being blocked by Windows Firewall, click Unblock.

**To start design spoolers:**

- Choose Start—Programs—Tajima—DG16 by Pulse—Start Design Spooler.

**To stop design spoolers:**

- Choose Start—Programs—Tajima—DG16 by Pulse—Stop Design Spooler.

## Adding Machines to Design Spoolers

You can add embroidery machines to Design Spoolers in order to configure Tajima DG16 by Pulse to communicate with your embroidery machine. You will need to add machines to the software if you are connecting your embroidery machine to your computer with a cable. You will also need to configure the software to add embroidery machines to a wireless network.



Make sure your embroidery machine is connected to your computer and the proper machine configuration is completed. For more information, see "Connecting Your Embroidery Machine".

**To connect the hardware:**

- 1 See your embroidery machine's documentation to set the correct port settings.
- 2 (Only for Wireless Networks): Connect the embroidery machine to an available serial server using the cables provided with your machine.
- 3 Turn on your computer and start Tajima DG16 by Pulse.

**To configure Tajima DG16 by Pulse to connect to your machine:**

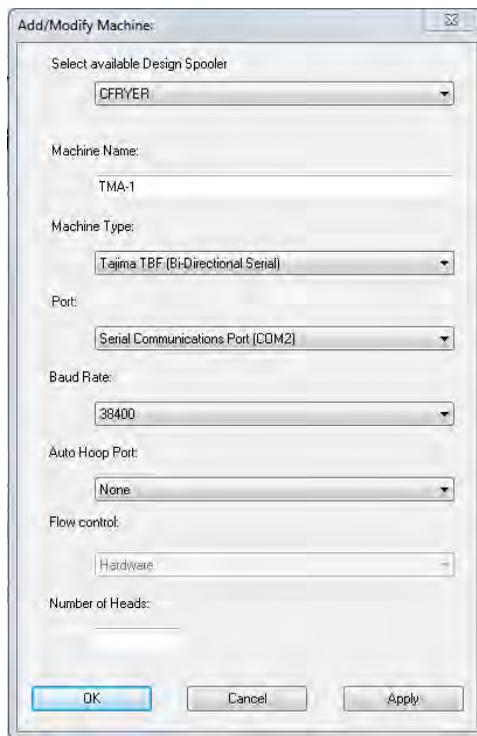
- 1 On the Ribbon, select the Tools tab.

- 2 Select the Machine Settings  tool.

*The Register Machines dialog appears with a list of all available embroidery machines.*

- 3 To add a new embroidery machine to a design spooler, select the spooler you want to add the machine to and click Add.

*You see the Add/Modify Machine dialog.*



The image shows the 'Add/Modify Machine' dialog box. It contains the following fields and options:

- Select available Design Spooler: CFFRYER
- Machine Name: TMA-1
- Machine Type: Tajima TBF (Bi-Directional Serial)
- Port: Serial Communications Port (COM2)
- Baud Rate: 38400
- Auto Hoop Port: None
- Flow control: Hardware
- Number of Heads: (empty field)

Buttons at the bottom: OK, Cancel, Apply.

- 4 In the Machine Name box, enter the embroidery machine name you want to use. This name will be used to identify the machine in the Output to Machine and machine configuration dialogs.

- 5 In the Manufacturers list, choose the type of embroidery device you want to use. *The settings below this list will depend upon the model of embroidery machine you select.*

- 6 (Only for Wireless Networks) In the IP Address box, enter the IP Address of the Serial Server connected to your embroidery machine.
- 7 In the Port list, select a port. Only ports not already being used will be displayed. For wired connections, the port is connected to your embroidery machine. For a wireless network, the port identifies the location of the machine on the network.



When you select a port, the settings will reflect what is available in your Windows® operating system.

- 8 (Only for Serial machines) In the Baud Rate list, select the correct Baud Rate (Download Speed) that matches your Embroidery Machine. Most newer serial embroidery machines communicate at a baud rate of 38400 bps. If you are not sure of the correct Baud Rate for your Machine, consult your embroidery machine manual.



Not all Tajima machines support data collection. Only recently have download speeds faster than 9600 bps have been supported for data collection. Please consult your Tajima supplier about whether your machine will support data collection and at what speed.

- 9 In the Number of Heads on Machine box, enter the number of heads on the embroidery machine.
- 10 Click OK to complete the installation process.

## Editing Embroidery Machine Settings

You can easily modify embroidery machine settings in Tajima DG16 by Pulse.

### To edit embroidery machine settings:

- 1 On the Ribbon, select the Tools tab.
- 2 Select the Machine Settings  tool.  
*You see the Register Machines dialog with a list of all available Design Spoolers and embroidery machines.*  
*Click the plus or minus symbols to expand or collapse the list of machines.*
- 3 To modify an existing embroidery machine's settings, select the machine you want to modify and click Edit.  
*You see the Add/Modify Machine dialog.*
- 4 Alter machine settings accordingly.
- 5 Click OK to save changes.

## Removing Embroidery Machines from Design Spoolers

Tajima DG16 by Pulse allows you to remove embroidery machines from a design spooler at any time.

### To remove embroidery machines:

- 1 On the Ribbon, select the Tools tab.
- 2 Select the Machine Settings  tool.  
*You see the Register Machines dialog with a list of all available Design Spoolers and embroidery machines. Click the plus or minus symbols to expand or collapse the list of machines.*
- 3 To remove an embroidery machine, select the machine you want to remove and click Remove.  
*You see a confirmation message. Click Yes if you want to delete the selected machine. The machine will be removed from the list of available embroidery machines.*

## Setting up Embroidery Machines as Clusters

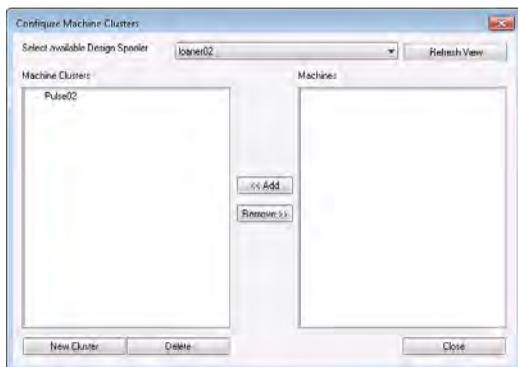
Machine Clustering is a new feature in Tajima DG16 by Pulse which speeds up the output of a single design to a number of machines. This feature works by allowing you to arrange your machines in groups, or “clusters”. You can create as many clusters as you need, and add or remove machines as your needs change.



When you output a design to a Cluster, the Design Queue will still show each machine in the Cluster individually.

### To configure machines as a cluster:

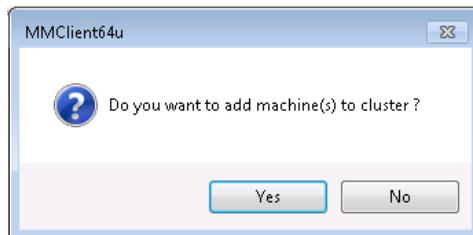
- 1 On the Ribbon, select the Tools tab.
- 2 Select the Machine Settings  tool.  
*You see the Register Machines dialog.*
- 3 Press the Config. Clusters button at the bottom of this dialog.  
*You see the Configure Machine Clusters dialog.*



- 4 Click on the New Cluster button.
- 5 When prompted, type a name for your new cluster, and click OK.

- 6 From the list of machines, select the ones you wish to add to your new cluster, and press <<Add.

*A dialog appears, asking you to confirm that you want to add the machine to the cluster.*



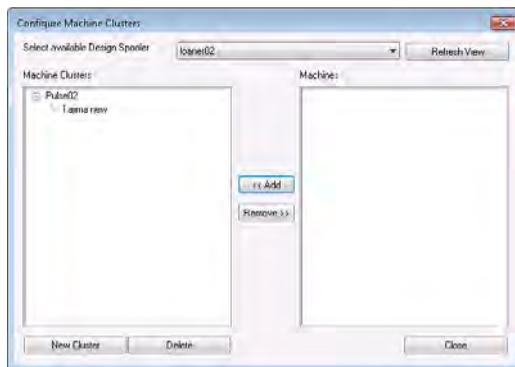
- 7 Click Yes.

*You see a dialog confirming that your machine was successfully added to the cluster.*



- 8 Click OK.

*The machine you just added now shows up under the cluster name.*



- 9 To remove a machine from the cluster, select it in the Machine Clusters column, and press Remove>>.
- 10 When done, click Close.

## Checking Embroidery Machine Status

Machine Status is a feature developed especially for newer model Tajima embroidery machines. This feature allows you to see on-screen the status of a configured embroidery machine and to automatically associate downloaded files to the machine. Use the  arrow to change the associated file.

The Data Collection window gives you information such as the machine's name, design information, the machine's status (i.e. running, not running, thread breaks, etc.), the machine's speed, and the current stitch. You can also view a list of published designs for configured Tajima TBF (Bi-Directional) and network enabled embroidery machine. For \*.TBF and \*.PSF files, the Data Collection window lets you watch the design sew out in the thread colors you selected for your design. The design is gray and as it sews, the correct colors appear. Other file formats use the default color palette.

The following steps are for a two-head Tajima machine. Check your embroidery machine's documentation to find out how to set the machine to network.

### To check the Machine Status:

- 1 Make sure your embroidery machine is set to network so two-way information can be communicated from the machine to the software and vice-versa.



What you select depends on the Tajima model you have.

- 2 Press F4 on the Tajima control panel. *NW is displayed.*
- 3 Turn the dial and set it to "0" to enable the network connection.
- 4 Open a stitch design in Tajima DG16 by Pulse.
- 5 To output it to the machine, choose File—Output to Machine. See "Outputting a design to an embroidery machine or disk".
- 6 From the Designs to Output area, click to the left of the stitch design name and a red check mark will appear.
- 7 From the Embroidery Machines area, click to the left of the machine name and a red check mark will appear.
- 8 Click Send. *You see a dialog appear showing the status of the design output. Click OK to close the dialog.*
- 9 Go back to your machine's control panel.
- 10 Press menu key A on the control pad until number 4 is displayed.



These instructions are for embroidery machines connected to serial ports.

- 11 Select Tajima tape format and press SET twice. When you see M:- the "-" means the design is loading. When the design finishes downloading, the dash becomes a number.
- 12 Go back to Tajima DG16 by Pulse.

- 13** On the Ribbon, select the File tab, and select Machine Connection and click Machine Status tool

*You see the Data Collection window. This window gives you information such as the machine's name, design information, the machine's status (running or not running), the machine's speed, and the current stitch.*



For more information on data collection, see the Using Data Collection section.

- 14** From the list at the top, select the Design Spooler connected to the machines you want to view.
- 15** To update the Machine list, click Update Machine List.
- 16** Select the machine whose status you want to view.

*In the main Data Collection window, you can view \*.PSF design files sew out in the thread colors you selected for your design. The design is gray and as it sews, the correct colors appear. For \*.DST and other design files, a default palette is used.*

- 17** Close the window when you are satisfied with the machine and design status.

## Setting Start and End Locations

Before you sew out a design, you need to define start and end locations so that the machine knows where to start and end when sewing out a design. The start location of a design is the position of the needle right before the design starts to sew. The stop location is the position of the needle right after the design finishes sewing out.

You can set the start and end location when creating new designs or while working on existing designs. To set the start and end locations for existing designs, use the **Start/End Settings** dialog.

This dialog is divided into two sections: **One Location** and **Two Locations**. To make a design's start and start positions the same, use the One Location settings. To make a design's start and end positions be in two separate locations, use the Two Location settings.

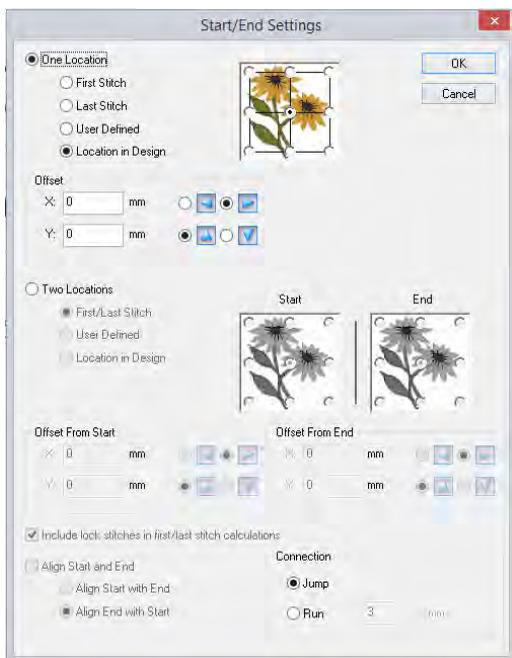


After performing stitch edits, it is sometimes necessary to refresh start and end points. An outline edit will always refresh the start and end points. To force start and end points to refresh, open the Set Start/End dialog and click OK.

### To set the start and end points for One Location:

- To open the Start End dialog, do one of the following:
  - On the toolbar, click the Select the Start End  tool.
  - From menu bar, select Segment—Set Design Start/End.

*You see the Set Start/End dialog.*
- Select the "One Location" radio button.



- 3 Choose one of the following start and end positions:
  - ♦ First Stitch. Start and end positions are set to the location of the first stitch in the design.
  - ♦ Last Stitch. Start and end positions are set to the location of the last stitch in the design.
  - ♦ User Defined. Start and end positions are manually chosen. Once you select this setting, click OK. Move your pointer to the location in the design you want to add start and end positions and left-click once to set the location for both.
  - ♦ Location in Design. Start and end positions are set to predefined locations in your design. Select one of the nine predefined locations in the floral design to the right of this setting. All of these locations are relative to your current design. For example, if you select the top left corner of the floral design, your

start and end positions will be set to the top left corner of your current design.

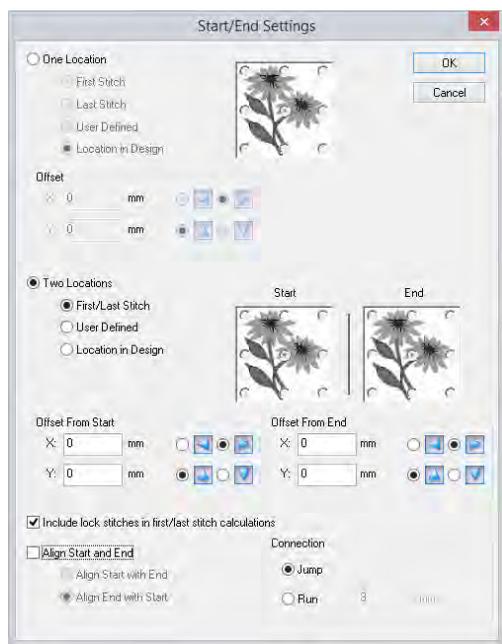
- 4 In the Offset area, enter values to offset the start and end positions you just selected from their normal positions. To do so, complete the following:
  - ♦ In the X box, enter a value for horizontal offsets and click the direction buttons to select the direction of the X offset.
  - ♦ In the Y box, enter a value for vertical offsets and click the direction buttons to select the direction of the Y offset.
- 5 Choose the Connection setting: If either the Start or End points (or both) of a design do not fall along a segment in the design, stitches will be required to bridge the gap between the nearest segment and the Start and/or End points.

In the Connection area, you can choose whether to make these stitches jump stitches or run stitches. If you choose to make the connection a Run segment, you can also specify the stitch length for the Run segment.

- 6 Click OK.

### To set the start and end points for Two Locations:

- 1 Do one of the following:
  - ♦ On the toolbar, click the Select the Start End  tool.
  - ♦ From menu bar, select Segment—Set Design Start/End.  
*You see the Set Start/End dialog.*
- 2 Select Two Locations.



**3** Choose one of the following start and end positions:

- ◆ **First/Last Stitch.** The start point is positioned on the first stitch in the design. The stop point is positioned on the last stitch in the design.
- ◆ **User Defined.** Start and end positions are manually chosen. Once you select this setting, click OK. Move your pointer to the location in the design you want to add a start point and left-click once to set the location. Then, move your pointer to the location in the design you want to add a stop point and left-click again to set the location.
- ◆ **Location in Design.** Start and end positions are set to predefined locations in your design. To set the start position, select one of the nine predefined locations in the (Start) floral design to the right of this setting. To set the stop position, select one of the nine predefined locations in the (End) floral

design to the right of this setting. All of these locations are relative to your current design. For example, if you select the top left corner of the (Start) floral design, your start point will be set to the top left corner of your current design.

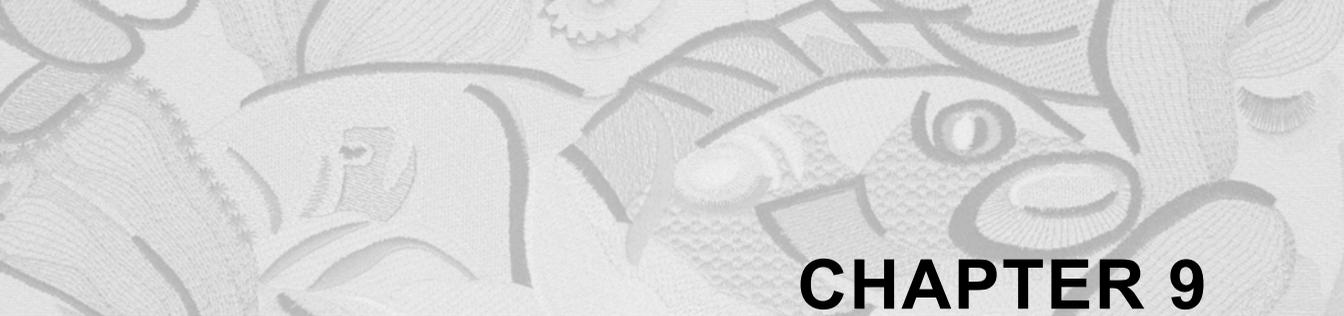
- 4** In the Offset from Start area, enter values to offset the start point you just selected from their normal positions. To do so, complete the following:
  - ◆ In the X box, enter a value for horizontal offsets and click the direction buttons to select the direction of the X offset.
  - ◆ In the Y box, enter a value for vertical offsets and click the direction buttons to select the direction of the Y offset.
- 5** In the Offset from End area, enter values to offset the stop point you just selected from their normal positions. To do so, complete the following:
  - ◆ In the X box, enter a value for horizontal offsets and click the direction buttons to select the direction of the X offset.
  - ◆ In the Y box, enter a value for vertical offsets and click the direction buttons to select the direction of the Y offset.
- 6** By default, the “Include lock stitches in first stitch/last stitch calculations” setting will be checked, and the start and end points will be calculated accordingly. If the machine requires that the start and end points always be at the first and last stitches of the segment, uncheck this box, so that the lock stitches will be left out of these calculations.
- 7** If First/Last stitches is chosen (in step 3), the Align option becomes available. This option will place the Start and End points of the design along a straight line; choose one of the following:
  - ◆ Align Start with End.

- ◆ Align End with Start.
- 8 **Connection setting:** If either the Start or End points (or both) of a design do not fall along a segment in the design, stitches will be required to bridge the gap between the nearest segment and the Start and/or End points.  
In the Connection area, you can choose whether to make these stitches jump stitches or run stitches. If you choose to make the connection a Run segment, you can also specify the stitch length for the Run segment.
  - 9 Click OK.

### **To set the start and end points when creating a new design:**

- 1 Choose File—New.  
*You see the New Document dialog box.*
- 2 In the Start/End Location list, select one of the following start and end locations:
  - ◆ Center. When sewing out your design, the machine will start and end at the center of the design.
  - ◆ First/Last Stitch. When sewing out your design, the machine will start and end at the first and last stitches of the design.
- 3 Click OK.





# CHAPTER 9

## Inputting and Outputting Designs

Tajima DG16 by Pulse has all the tools you need to efficiently input and output your designs. Using the Input/Output Wizard, you can input designs that are stored on a disk, hard drive, or CD-ROM. You can output a design to an embroidery disk or embroidery machine from a memory device, the hard drive of your computer, or a design window in Tajima DG16 by Pulse.

*Topics covered in this chapter:*

- Settings for Melco Condensed files.
- Formatting machine disks.
- How to input designs from an embroidery disk, hard drive, or CD-ROM.
- Outputting designs to embroidery machines, disks, or appliqué cutter machines.

## Melco Condensed File Settings

You can select settings for Melco Condensed files such as the Default density and the Fill Angle setting. Melco Condensed (\*.CND) designs tend to have lighter densities than other designs. Tajima DG16 by Pulse compensates for this lighter density with a default density value that represents the best value to work with most Melco designs, giving them a slightly heavier density.

### To adjust the settings for Melco Condensed files:

- 1 Choose Tools—Configuration—User Settings.
- 2 You see the User Settings property pages.
- 3 Click the Compatibility property page.
- 4 Select the following settings:
  - ◆ In the Default density box, enter the default density value you want.
  - ◆ Below Fill Angle, select Use average fill angle or Use angle of first line.
- 5 Click OK.

## Formatting Floppy Disks

If you purchase pre-formatted disks, you will not have to format your disks. However, if you have to format, you can format disks in Windows®.

### To format disks:

- 1 Insert disk into drive A:\.
- 2 Double-click the My Computer icon.
- 3 Right-click 3 1/2 Floppy A:\.
- 4 Choose Format from the shortcut menu.  
*You see a dialog box.*

- 5 Select the Capacity—either 144 Mb (high density) or 720 Kb (low density or double-density).



In Windows®, double-density disks are no longer supported. Use Tajima DG16 by Pulse to format double-density disks. For more information, see "Formatting machine disks".

- 6 Select the format type—either Full for a new unformatted disk or Quick if you are reformatting a disk that was previously formatted.
- 7 Select any other options section if necessary.

## Formatting Machine Disks

You can format your machine disks.

Formatting a disk prepares a floppy disk to store information for a specific machine type. If your disk is already formatted, you will reformat the current disk and erase any saved information.

Tajima DG16 by Pulse formats most machine disk types, including Tajima, Barudan FDR3, Barudan FMC, Brother 4xx, Melco, ZSK, Brother 310, 326, 340, Stellar, Toyota, Melco DOS, Pfaff, Happy, and Marco. Melco, Barudan, and some other machine formats cannot be read in DOS format. However, Brother 4xx and Tajima machine disk types can be read in DOS format; therefore, if you want, you can also format these disk types through Windows®. See "Formatting floppy disks" for more information on how to format these types of machine disks.

## Special Notes:

- Formatting a disk erases ALL information already on the disk. Make sure there is nothing important on the disk you are formatting.
- If you are reformatting a machine disk to use again, avoid reformatting to a different machine format. For example, if you have a disk that was formatted as Tajima and you reformat it as Melco, you may encounter problems. To use the disk again, reformat it in the same machine format; for example, Tajima to Tajima.
- Only double density disks are supported for the Marco format.



You can also format machine disks using the I/O Wizard. Choose File—Embroidery Disk—Format.

### To format machine disks:

- 1 Insert disk in disk drive.
- 2 Choose File—Format Disk.  
*The I/O Tools - Format Disk dialog box appears.*
- 3 Click OK, if you get a dialog box requesting that you insert a disk.
- 4 Select the drive where the disk you want to format is located and select the disk type you want.
- 5 Click OK.  
*A message appears asking you if you are sure you are ready to format.*
- 6 Click Yes.



Make sure you are using the correct embroidery machine disk type.

*When the disk is formatted a message appears notifying you if the disk was formatted successfully.*

## Inputting Designs

With the input feature, you can input designs that are stored on a disk, hard drive, or CD-ROM. You can also input multiple designs in one task.

The Previous Uses option allows you to quickly select an input source and destination. In the Previous Uses list, Tajima DG16 by Pulse saves the input source and destination of each input action. Next time you want to input a design, you can select the complete input action rather than selecting the input source and destination.

The following provides some additional information to help you use the Input/Output Wizard effectively.

### Selecting design files

You can select design files from the Input Design dialog. In the File Type box, select the design file type you are inputting. For example, you can select Tajima Stitch Files or All files. The File Type box lets you select the types of files that are shown. To input multiple design files, press **SHIFT** as you select the files you want to input.

### Rereading disks

You can reread disks from the Input Design dialog. If you switched disks and want the system to reread the disk, select the Drive and then deselect it.

### Using Fix Disk

You can use the Fix Disk option from the Input Design dialog. Fix Disk is for Tajima disks only. Use Fix Disk if you are having problems reading a Tajima disk created on an older embroidery system. You may damage other disk types if you use Fix Disk.

## Selecting Machine Formats

You can select machine formats from the Input Design dialog. A machine format is a group of settings that are applied to the stitches in a design. Select the machine format that you want applied to the design when read. To make changes to machine format properties and settings, click Edit.



Only advanced users should modify machine format properties. For more information on changing machine format properties and settings, see “Using Machine Formats”.

## Selecting Window as the destination for designs

You can select your design window as the destination for designs from the Input/Output page. The system temporarily loads the design into the design window but does not copy the design to your hard drive. If you want to save the design to your hard drive, select File—Save As. If you select Window and are inputting a Melco Condensed file (CND) or any other file type, the system opens a design window.

## Selecting Hard Drive and Window as the destination for designs

You can select your hard drive and window as the destination for designs from the Input/Output wizard page. The Save As dialog box appears so that you can save the design file to your hard drive. The design is also loaded into the design window. If you are inputting from a CD-ROM or hard drive, you can save the design as the original disk type or as a Pulse Embroidery File (\*.PXF).

## Inputting a Design from an Embroidery Disk

When inputting a design, you have the option of inputting the design from an embroidery machine disk or from the computer’s hard drive.

### To input a design from an embroidery disk

- 1 From the menu bar, select File—Embroidery disk—Read.  
*You see the “Select Location to input from” dialog.*

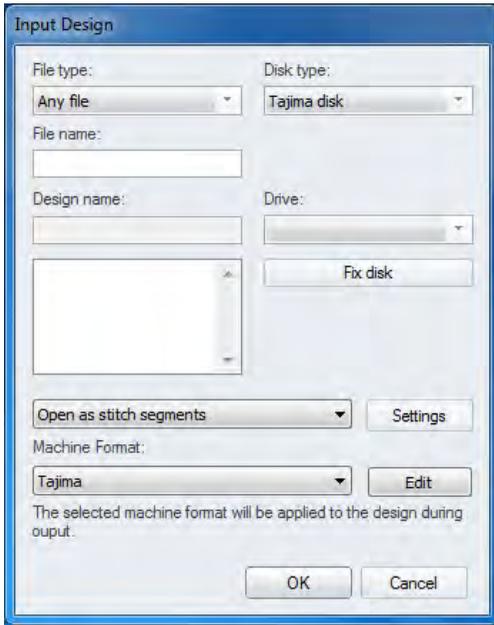


- 2 Click the “Embroidery disk” radio button.
- 3 In the Disk Type list, select the type of embroidery disk in the drive.



To use a previously-used input source and destination, select Previous Uses. Then select the source and destination from the list.

- 4 Click Next.  
*You see the Input Design dialog.*

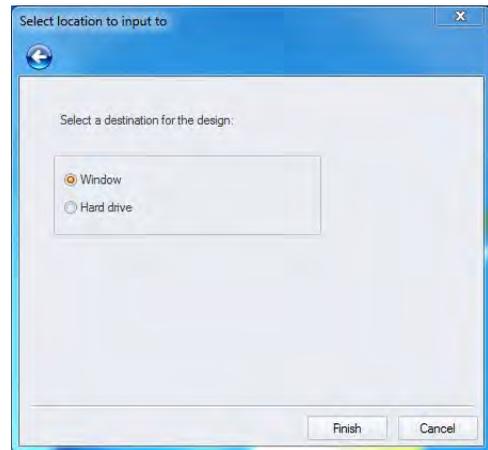


- In the Input Design dialog, enter any of the following settings and buttons that will allow you to save the embroidery design. For additional information on inputting designs, see "Inputting a design from an embroidery disk, hard drive, or CD-ROM"

Setting or Button	What it does
File Type	Determines the stitch file type of the downloaded design. For example, Tajima, Barudan, and ZSK stitch files can all be input from Tajima disks. The default is the native stitch file; for example, Tajima for Tajima, Barudan for Barudan, and so on.
Disk Type	Matches the type of embroidery disk in the drive.
File Name	Contains the desired name of the input file.
Design Name	Shows the existing design name.

Setting or Button	What it does
Drive	Selects the drive where you want to input the design. This setting can also be used if you have multiple 3 1/2" drives.
Fix Disk	Fixes a Tajima disk created on an older embroidery system. Fix Disk is for Tajima disks only. You may damage other disk types if you use Fix Disk.
Open as stitch segments	Choose either Open as stitch segments or Convert stitches to outlines. The latter option will convert the file to editable vector outlines; for more information, see "Converting Stitches to Outline Segments."
Machine Format	The selected machine format will be applied to the design during input.
Edit	Allows you to make changes to machine format properties and settings. For more information, see "Using Machine Formats".

- Click Open.  
*You see "Select location to input to" page.*



- To input to the design window only, select Window and click Finish.  
*The design appears in the design window.*

- 8** If you want to input to the hard drive, complete the following:
- ◆ Select Hard drive, and click Finish.  
*You see the Save As dialog.*
  - ◆ Enter a File Name and browse in the Save in list to the location you want to input your design.
  - ◆ Modify any other settings, if necessary.



If the file is going to be saved in a stitch file format (e.g. \*.DST), the Machine format field of the Save As dialog will become active. Select the desired format from the drop-down list.

- ◆ Click Save.

*The design will be saved to your hard drive; it will also open in the design window.*

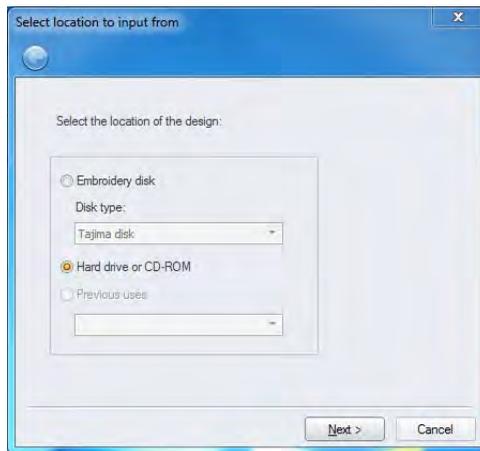
## Inputting a Design from a Hard Drive or CD-ROM

When inputting a design, you have the option of inputting the design from an embroidery machine disk or from the computer's hard drive.

In the Stitch File Options dialog, choose to Open as stitch segments or Convert stitches to outlines. Click OK. For more information on ways to open stitch files, see "Opening and closing designs".

### To input a design from a Hard Drive or CD-ROM:

- 1** From the menu bar, select File—Embroidery disk—Read.  
*You see the "Select Location to input from" dialog.*



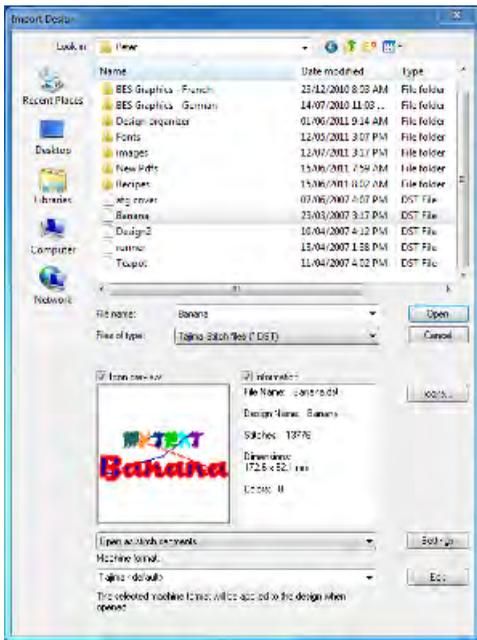
- 2** Select the "Hard drive or CD-ROM" option.



To use a previously-used input source and destination, select Previous Uses. Then, select the previous use (source and destination) from the list.

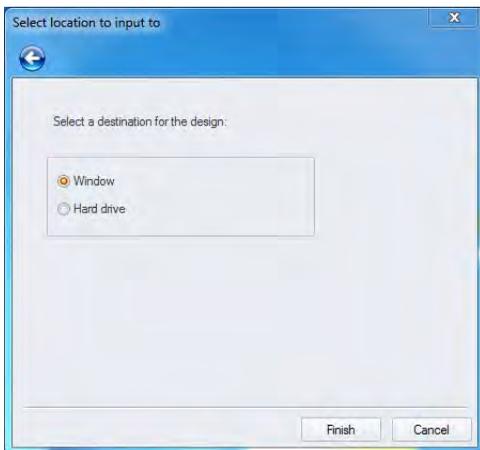
- 3** Click Next.

*You see the Import Design dialog.*



- 4 Enter a File Name and browse in the Look in list to the location you want your design imported from.
- 5 Modify any other information, if necessary.
- 6 Click Open.

*You see the Select location to input to page.*



- 7 If you want your design window to be the destination for the design, complete the following:

- ◆ Select Window and click Finish.  
*The design appears in the design window.*

- 8 If you want your hard drive and design window to be the destination for the design, complete the following:

- ◆ Select Hard drive and window.  
*You see the Save As dialog.*
- ◆ Enter a File Name and browse in the Save in list to the location you want to input your design.
- ◆ Modify any other settings, if necessary.



If the file is going to be saved in a stitch file format (e.g. \*.DST), the Machine format field of the Save As dialog will become active. Select the desired format from the drop-down list.

- ◆ Click Save.  
*You see the design appear in the design window.*

## Outputting a Design to an Embroidery Machine or Disk

You can output designs to an embroidery disk or embroidery machine. The output file can be read by an embroidery machine. Tajima DG16 by Pulse outputs designs in various machine formats. The Input/Output Wizard will help guide you through this task.

When you output a design to disk in Tajima Stitch File (\*.DST), Barudan Stitch File (\*.DSB), Tajima TBF File (\*.TBF), or Zangs/ZSK Stitch File (\*.DSZ) format, an icon file can also be output to disk with the \*.DGT, \*.DGB, \*.DGR or \*.DGZ file extension in respective

order. You can view these design icons on another computer or on selected embroidery machines that have a LCD display.

The Previous Uses option is ideal if you generally output from the same location (Hard Drive, CD-ROM, or Window). Tajima DG16 by Pulse saves this action on the Previous Uses list. Next time you want to output a design, you can select the action, instead of having to select the location again.

The following outlines some information to help you use the Input/Output Wizard effectively.

## Selecting Hard Drive or CD-ROM as the output source

You can select the hard drive or the CD-ROM as your output source from the Input/Output wizard page. If you select Hard Drive or CD-ROM, you see the Open dialog box. Select the file you want to output.

## Configured machine list

In the Output to Machine dialog, the Embroidery Machines area contains a list of configured machines to which you can output designs. You can also click Queue View to view the Design Queue Manager dialog containing each machine's status.

## The Output to Machine dialog

You can access the Output to Machine dialog from the File—Machine Connection, or by selecting the Output to Machine button from the Output toolbar. This dialog allows you to send designs to configured embroidery machines.

The following table outlines Output to Machine dialog settings and buttons.

Setting or Button	What it does
Designs to Output	Displays all design files that will be sent to the embroidery machines. Select one or more designs to send to machines.
Embroidery Machines	Displays all available design spoolers and embroidery machines. Select one or more machines you want to send your designs. To select machines, click to the left of machine names and a red checkmark appears. Allows you to browse and locate new design files to send to selected machines.
Add more designs	Click Add more designs and the Open dialog appears. To open multiple files, press Ctrl while selecting the files you want to open. To open all files, select any file and press Ctrl+A.
Download count (Only for Tajima TBF Bi-directional serial compatible machines)	Enter the number of times a published design can be downloaded before it is removed from the Design Queue Manager. If the Download count box is left empty, designs can be downloaded an unlimited number of times.
Send	Allows you to send your design files to selected machines. You see the Output Results window, with the status of the sent design files.
Queue View	Opens the Design Queue Manager dialog. You can view all designs published to selected machines.

Setting or Button	What it does
Advanced	Allows you to add advanced output settings.  Click Advanced to open the Advanced Output Settings dialog. For more information, see “Changing the design using advanced settings in the Output Design dialog”.

The following table lists additional actions that can be performed in the Output to Machine dialog.

Action	How to do...
To output all published designs	From the Designs to Output list, select All Designs to send all opened embroidery designs to selected machines. Click to the left of All Designs and a red checkmark appears.
To select all configured embroidery machines	From the Embroidery Machines list, select All Design Spoolers. All configured embroidery machines will be selected.
To select all configured embroidery machines for a specific design spooler	From the Embroidery Machines list, select the spooler name. Click to the left of spooler name and a red checkmark appears. All embroidery machines displayed under this spooler will also be selected and have red checkmarks beside them.

Action	How to do...
To select machine formats and make changes to machine formats settings	From the Embroidery Machines list, double-click an embroidery machine. You see the Select Machine Format dialog. Select the machine and code type you want to use for this machine. A code type is the file format you want to use for a specified machine. For example, a Barudan machine has three possible file formats available. To make further changes to Machine Format properties and settings, click Edit. For more information on using Machine Formats, see the “Using Machine Formats” section.

## Using the Design Queue Manager dialog

In the Output to Machine dialog, you can view designs published to various embroidery machines. When you choose File—Machine

Connection, or click the Design Queue  tool from the Output toolbar, you will see a dialog (Design Queue Manager) similar to the one below. You can select an available design spooler and see machine status information.



The Design Queue Manager dialog allows you to view all machines and published designs for a design spooler. The machines and designs

connected to a design spooler are displayed one at a time. You can view detailed design information, sewing condition data and other properties for each published design as well as delete one or more published designs from the list.

As designs are sent to machines, they will appear at the end of the queue on the right side. Designs that have been downloaded to machines will disappear from the list, depending on the Download count value. The design's status and machine download percentage value will update as designs download to a machine.

The following table describes the information shown within the Design Queue Manager dialog.

Displayed Information	What it means
<i>The following information is shown in the Machine column (far left). In the Machine column, each row displays information for a specific embroidery machine.</i>	
ID	The machine name. The type of download: Push or Pull.
Type	Push: The design is sent to the machine automatically. Pull: The design can be pulled (downloaded) from the queue directly from the embroidery machine.
Designs	The total number of designs in the queue.
Download	As a design downloads to an embroidery machine, you can view the progress. You will see the percentage of the total design size remaining.

Displayed Information	What it means
<i>The following information is shown in each Design column. In the Design columns, each row displays information about designs that have been sent to an embroidery machine (shown far left).</i>	
Design	The design name.
File	The file name.
Stc count	The design's stitch count.
Width	The design's width.
Height	The design's height.
Colors	The number of color changes in the design.
Download	The number of downloads set by the Download Count setting.
State	The current state of the design: Waiting or Sent. Waiting: The design is waiting to be downloaded. Sent: The design is currently being downloaded to the embroidery machine.

The following table outlines the actions that can be performed in the Design Queue Manager dialog.

To do this	Do this
View the queue for machines connected to another design spooler.	From the Select available Design Spooler list, select a design spooler.
View additional machines in the queue.	Use the scroll bars to scroll down the list.
View additional designs in the queue.	Use the scroll bars to scroll across the list.
Manually refresh the Design Queue Manager dialog.	Click Refresh View.
Re sequence a design in the queue.	Click and drag designs to the left or right of a row.

To do this	Do this
Remove a design from the queue for a specific machine.	Right-click a design and select Delete from the menu.
Remove all designs in the queue for a specific machine.	From the Machine column, right-click a machine and select Delete All from the menu.
Make a design first in the queue.	Right-click a design and select Set As First from the menu.
Make a design last in the queue.	Right-click a design and select Set As Last from the menu.

## Selecting design files to output

You can select design files to output from the Output Design dialog. The name in the File Name box is the name of the design file you will output to the machine. If a design file was open, Tajima DG16 by Pulse outputs the current design from the window. Click Browse to choose a different file using the standard Open dialog box.

## Using Fix Disk

You can use the Fix Disk option from the Output Design dialog. Fix Disk is for Tajima disks only. Use Fix Disk if you are having problems reading a Tajima disk created on an older embroidery system. You may damage other disk types if you use Fix Disk.

## Using the Output Design dialog

The following table outlines the Output Design dialog settings and buttons that allow you to save the embroidery design to disk.

Setting or Button	What it does
File Type	Determines the stitch file type of the downloaded design. For example, Tajima, Barudan, and ZSK stitch files can all be output to Tajima disks. The default is the native stitch file; for example, Tajima for Tajima, Barudan for Barudan, and so on.
Disk Type	Matches the type of embroidery disk in the drive.
Force G000 name format	Select to enable G000 name formats for the output file. The file name box will be disabled.
File Name	Contains the desired name of the output file.
Drive	Selects the drive where you want to output the design. This setting can also be used if you have multiple 3 1/2" drives.
Design Name	Shows the existing design name.
Fix Disk	Fixes a Tajima disk created on an older embroidery system. Fix Disk is for Tajima disks only. You may damage other disk types if you use Fix Disk.
Format	Formats the disk in the disk drive.
Save Icon	Select to save icon files for Tajima Stitch File (*.DST), Barudan Stitch File (*.DSB), Tajima TBF File (*.TBF) or Zangs/ZSK Stitch File (*.DSZ) formats.
Machine Format	The selected machine format will be applied to the design during output.
Edit	Allows you to make changes to machine format properties and settings. For more information, see "Using Machine Formats".

## Changing the design using advanced settings in the Output Design dialog

You can change your design using the advanced settings contained within the Output Design dialog as well as the Output to Machine and Save As dialogs. If you need to rotate, mirror, or scale your design so it sews out properly on the material you are using, click Advanced in the appropriate dialog. For example, baseball caps are framed upside-down; therefore if you turn the design upside down, it will sew right-side up on the cap.

The following table lists the actions that can be performed in the Output Design dialog.

To do this	Do this
To make sure that the design fits in the hoop by moving the needle around the outside of the design, you should trace the design.	Select Trace Design
To map commands for older embroidery machines that do not have particular commands available.	Select Map commands
To create an upside-down copy of the design.	Select Activate Quick Change and enter the distance in the Vertical Move box
Rotate a design at the specified angle.	Enter a value for Rotate angle
Flip the design horizontally	Select Mirror X
Flip the design vertically	Select Mirror Y
Turn the design upside-down	Select Mirror X and Mirror Y
Scale the design horizontally	Enter a value for Scale X
Scale the design vertically	Enter a value for Scale Y

To do this	Do this
Reset your Advanced settings to the default values (Available from Output to Machine dialog only)	Click Reset Settings
Save your Advanced settings as default	Click Save Settings
Apply your Advanced settings to selected designs (Available from Output to Machine dialog only)	Click Apply Settings

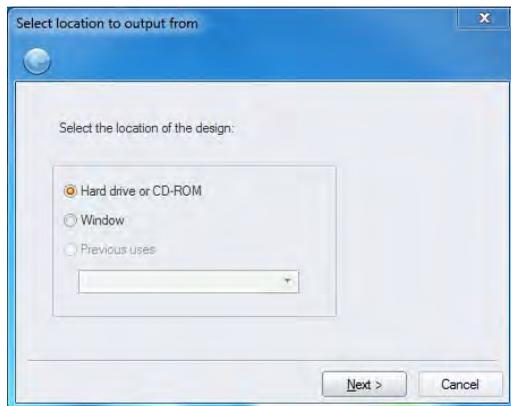
## Outputting a design from the Hard Drive or CD-ROM

When you output you can select to output a design from an embroidery disk.

### To output a design from the Hard Drive or CD-ROM:

- Do one of the following:
  - From the File menu, click on the Output to Disk  tool.
  - From the menu bar, select File—Embroidery disk—Write.

*You see the “Select Location to input from” dialog.*

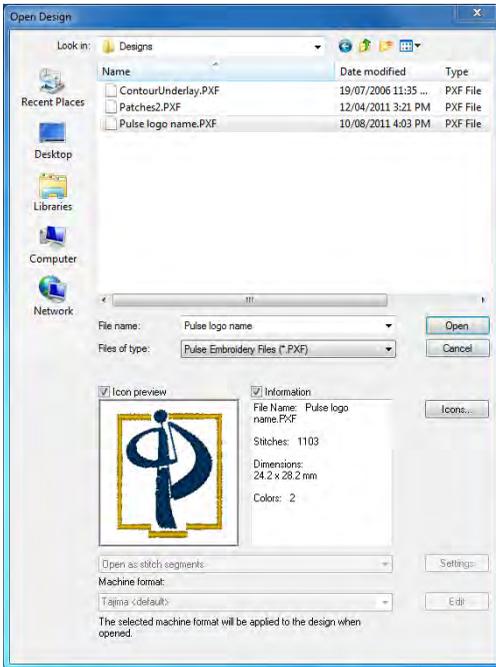


- 2 Check the “Hard drive or CD-ROM” radio button



To use a previously-used output source and destination, select Previous Uses; then, select the previous use (source and destination) from the list.

- 3 Click Next.  
*You see the Open Design dialog.*

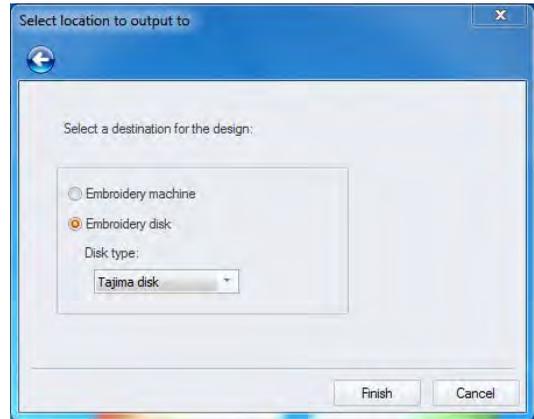


- 4 Browse in the Look in list to the location you want your design output from, and then select the file you want to output.

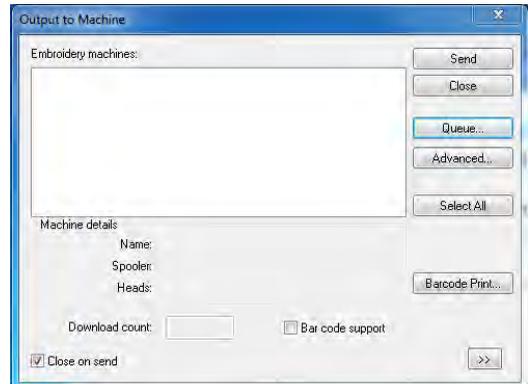


To select only from files of a particular format, select that type in the “Files of type” field on the dialog.

- 5 Click Open.  
*You see the Select location to output to page.*



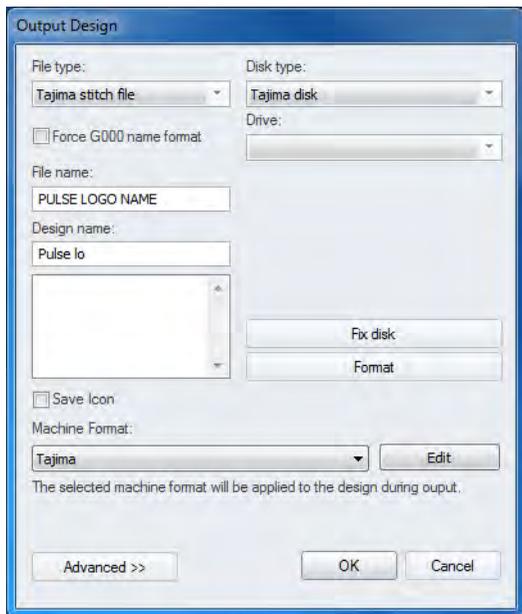
- 6 If you want to output the design directly to the embroidery machine, do the following:
  - ◆ Select Embroidery machine and click Finish.*You see the Output to Machine dialog.*



- ◆ In the Output to Machine dialog, modify any settings if necessary and click Send to send the design to the embroidery machine. For more information on settings, see "Outputting a design to an embroidery machine or disk".
- 7 If you want an embroidery disk to be the destination for the design, complete the following:

- ◆ In the Disk Type list, select the type of embroidery disk in the drive.
- ◆ Click Finish.

*You see the Output Design dialog.*

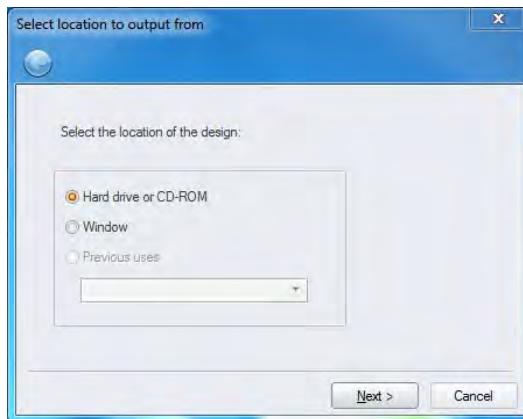


- ◆ In the Output Design dialog, modify any settings or buttons if necessary. For additional information on Output Design dialog settings and on outputting a design, see "Outputting a design to an embroidery machine or disk".
- ◆ Click OK.

*You see a message saying the design wrote successfully to disk. Click OK.*

## Outputting a Design from the Design Window

When the Input/Output Wizard opens, you can select to output a design from your design window. For more information on opening the Input/Output Wizard, see "Opening the Input/Output Wizard to output designs".



### To output a design from the design window:

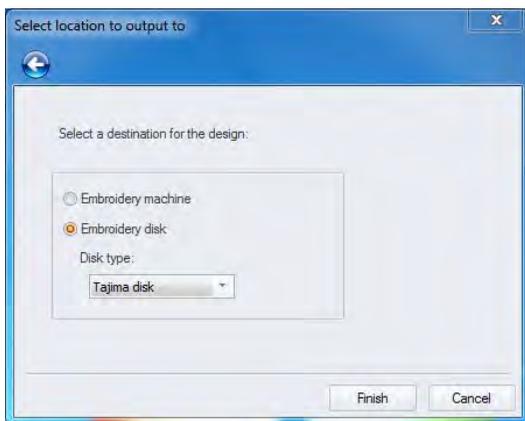
- 1 To select the location of the design, select Window.



To use a previously-used output source and destination, select Previous Uses. Then, select the previous use (source and destination) from the list.

- 2 Click Next.

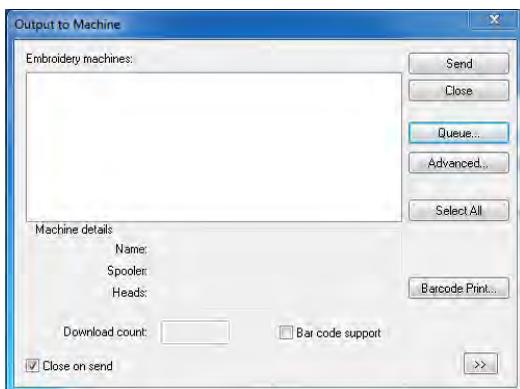
*You see the Select location to output to page.*



- 3 If you want an embroidery machine to be the destination for the design, complete the following:

- ◆ Select Embroidery machine and click Finish.

*You see the Output to Machine dialog.*

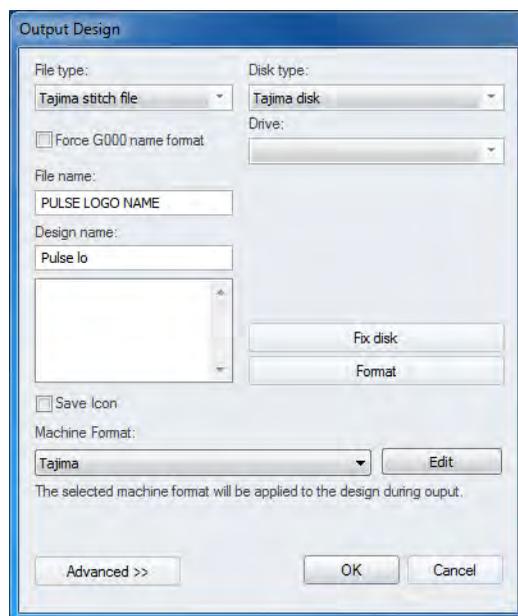


- ◆ In the Output to Machine dialog, modify any settings if necessary and click Send to send the design to the embroidery machine. For more information on settings, see "Outputting a design to an embroidery machine or disk".

- 4 If you want an embroidery disk to be the destination for the design, complete the following:

- ◆ In the Disk Type list, select the type of embroidery disk in the drive.
- ◆ Click Finish.

*You see the Output Design dialog.*



- ◆ In the Output Design dialog, modify any settings or buttons if necessary. For additional information on Output Design dialog settings and on outputting a design, see "Outputting a design to an embroidery machine or disk".

- ◆ Click OK.

*You see a message saying the design wrote successfully to disk. Click OK.*

# Assigning Needle Colors in the Design Queue Manager

This feature allows the embroiderer to set the color sequence and assign the needles for a design from the computer, rather than at the machine itself.

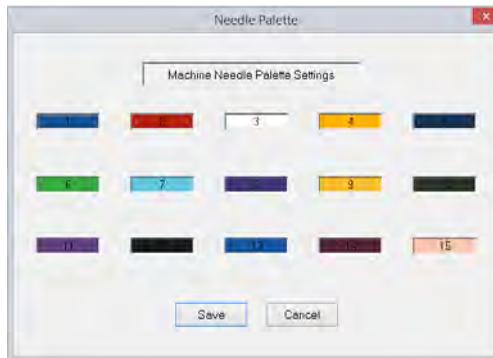
You first save a design and then output it to the machine as usual. Then, from the Design Queue, configure the colors in the needle bar. Finally, change the needle colors using the Needle Bar Selection dialog.

## To configure the needle bar:

- 1 Output a a design to a machine.
- 2 In the Machine Toolbar, click the Design Queue  tool.  
*You see the Design Queue Manager dialog.*



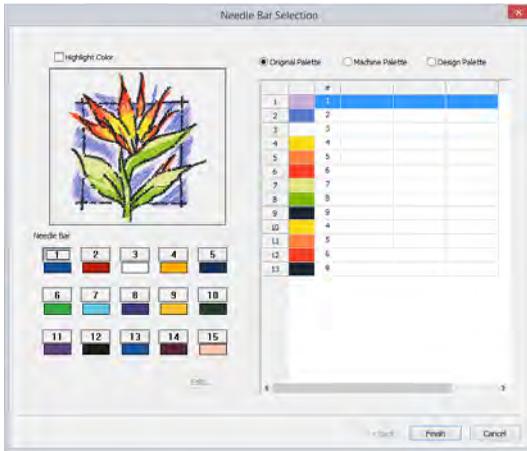
- 3 Right-click on the Machine name in the Design Queue  
*You see a context menu.*
- 4 Choose Set Palette from the context menu.
- 5 The Needle Palette for the selected machine opens.



- 6 Each rectangle represents a needle on the machine; click on the rectangle for each needle, and choose a color from the palette that appears.
- 7 Repeat the above step until you have assigned a color to each needle.
- 8 Click Save.  
*The colors will be saved, and the Needle Palette dialog will close.*

## To assign needle colors to the design:

- 1 In the Design Queue, right-click on the design you want to assign colors to.  
*You see a context menu.*
- 2 Choose Assign needle # from the context menu.  
*The Needle Bar Selection dialog opens. On this dialog, you see a small preview of the design on the top left, with the colors in the Needle Bar in a matrix below it. The sequence of colors currently assigned to the thread numbers in the design are shown on the table to the right.*



- 3 Select the Machine Palette button.  
*The colors in the Design Preview change to match the colors in the Machine Palette as currently configured (see previous procedure).*



At any point in this process, you can review the colors of the original design for comparison by selecting the **Original Palette** radio button at the top of the dialog.

- 4 (Optional) Check the 'Highlight Color' box to simplify the process of selecting matching colors. When enabled, only the segments of the currently selected color will appear in full color in the design preview - all other segments will be grayed-out.
- 5 To change colors, do the following:
- ♦ Select one of the rows (a needle number) in the palette table.  
*The select row will be highlighted in blue.*
  - ♦ In the Needle Bar matrix (on the bottom-left) of the dialog) click on the color you want to assign to the selected needle in the Machine Palette.



Note that you can change the colors in the needle bar by clicking the Edit... button (below the Needle bar); this will re-open the Needle Palette dialog so that you can modify it.

*The color of the selected needle in the palette changes to match the selected color from the Needle bar; notice also that the color is applied to the corresponding segments in the design preview.*

- 6 Repeat the above steps for the remaining needles in the design palette table sequence.

Sometimes, you may want to change all instances of color at the same time.



To do this, switch from Machine Palette to Design Palette. There will now be one row in the palette for each different color in the design. When you change a color in the Design Palette, all instances of that color in the sequence will be changed.

- 7 Click Finish.  
*The Needle Bar Sequence dialog will close. In the Design Queue, note that the preview of the design now appear with the colors as you have assigned them.*

# Outputting to an Appliqué Cutter Machine

Use the Appliqué Cut  tool to create a segment you can save as an AutoCad™ (\*.dxf) or Hewlett-Packard Graphics Language (\*.hpgl) vector file and then output the file to an appliqué cutter machine. To use this feature, you punch Run stitches around an area where you would like to apply an appliqué, and then use Appliqué Cut for the areas where you want to place tack down stitches for the appliqué. Appliqué Run segments are output to a \*.dxf or \*.hpgl file with the same name as the design file. If you are having difficulty digitizing the segment using Bezier curves, see "Bezier curves introduction".

## To create an Appliqué Cut segment:

- 1 In the Digitizing toolbar, click the Appliqué Cut  tool.  
*The pointer becomes a cross hair.*
- 2 Do one of the following steps to punch the areas you want to cut in your design:
  - ♦ To create an open segment, click the design workspace to place your anchor points.
  - ♦ To create a closed segment, click the design workspace and press **H**.
- 3 Press **ENTER** to complete the segment.

# Exporting an Appliqué Cut Segment

You must use the Export Appliqué Cut feature to generate AutoCad™ (\*.dxf) or Hewlett-Packard Graphics Language (\*.hpgl) vector files from designs with Appliqué Cut segments.

## To export an Appliqué Cut segment:

- 1 Open an existing design containing an appliqué segment.
- 2 Choose File—Export Appliqué Cut.  
*You see the Save As dialog.*
- 3 In the Save in list, browse to the location you want to save your appliqué cut file.
- 4 In the File Name box, enter the file name for the appliqué cut file.



By default, the Save As dialog opens the Design folder and gives the appliqué cut file the same name as your design file.

- 5 In the Save as type list, select from one of the following file types: HP Graphics Language (\*.HPG, \*.HPGL or \*.PLT) or AutoDesk Drawing Interchange (\*.DXF).
- 6 Click Save.



# CHAPTER 10

## Text Tools and Settings

Generate embroidery text in an array of shapes and sizes using the Text tool, as well as the vast selection of commercially available TrueType® fonts. You can edit the shape, color, size, and spacing of your lettering. Tajima DG16 by Pulse also allows you to merge lettering and add any stock design with just a few clicks of your mouse.

*Topics covered in this chapter:*

- Creating embroidery and true type lettering.
- Using the Text, Line Angle, Step, Arc and Circle tools as well as how to insert color changes and kern your lettering.
- Using the drawing modes for lettering.
- Adjusting Text and Text Effects properties.
- Creating new fonts with the Font Manager.
- How to merge designs with lettering.

## Creating Lettering

You can create a variety of lettering by using the Lettering tools. Text creates lettering that fits any curve you draw.



Tajima DG16 by Pulse only displays text and characters found within font files. If you enter text containing letters or characters not found in the selected font file, only the text found in the font file will be displayed in the design workspace.

## Creating Standard Lettering

Use the Text tool to create a standard lettering segment. The lettering segment will follow a baseline that you draw in the design workspace using the Bezier Curves. (See “Using Paths—Drawing Modes for Digitizing”). Standard lettering segments can consist of a single line or have multiple lines.

### Important

- The default sewing sequence for multiline text is left to right and then right to left. This alternating sequence continues for each line of text. To have all lines of multiline text sew in the same sequence as the first line, you must select Uniform sequence for multiline text from the text Segment Settings property pages.
- You can delete a line of multiline text and both the baseline and the handles will be updated.
- After deleting lines of multiline text, you can add more lines of text to the same segment as long as the number of lines does not exceed the original number.
- If you created your text using Fill Box justification, you can add or delete any number of letters and the text will be adjusted accordingly.

### To create standard lettering:

- 1 In the Lettering Toolbar, click the Text  tool.
- 2 To form the text baseline, enter a line using Bezier curves.
- 3 Press **Enter** to complete the baseline. *You see the Enter Text dialog.*
- 4 In the **Enter Text** dialog, type in the desired text. To enter multiple text lines, press Enter between each line.



There are options that apply only to Multiline text segments. For more information, see “Creating Multiline Text.”

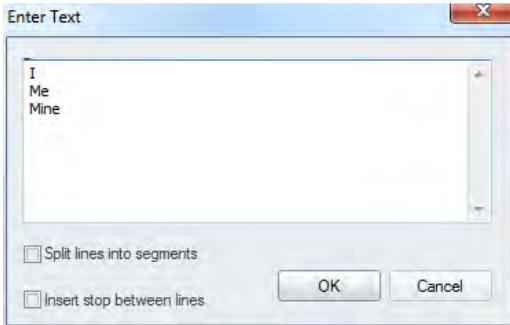
- 5 Click OK. *The lettering appears in the workspace.*
- 6 In the Properties panel, under the Text category, select the font you want to apply to the lettering. For more information, see “Selecting a Font.”

## Creating Multiline Text

Multiline text is any segment in which two or more parallel lines of text are created in a single procedure. Multiline text is available in the Normal, Step, Line Angle, and Vertical text input modes.

### To create a Multiline text segment:

- 1 Digitize the segment as usual using one of the following text tools: Normal, Stepped, Line Angle, or Vertical.
- 2 Click **Enter** to complete the segment. *You see the text input dialog.*
- 3 Enter your text into the text box, pressing **Enter** to make a new line.



- (Optional) Check “Split lines into segments.” Choosing this option means that when the text is generated each line will be made into its own segment.
- (Optional) Check “Insert stop between lines” to place a stop between each line.
- Click OK.

*The Multiline text segment appears in the workspace.*



*Multiline segment, with the “Insert stop between lines” option checked. Note that there are stops at the end of each line except for the final one.*

## Creating Stepped text

The Stepped text tool creates a text segment in which the baseline is at an angle (any angle you choose to make it), but the individual letters are oriented horizontally.

### To create stepped text:

- In the Lettering Toolbar, click the Stepped text  tool.
- To form the base of your box (the text length), left-click and drag your mouse. Do not let go of the mouse until you have drawn the height of your box.
- To form the height of your box (the text height), move your mouse upwards. When the box is the size you want, let go of the mouse button.
- Left-click the design workspace to enter the text.  
*You see the Enter Text dialog.*
- Enter the text in the Enter Text box, and click OK. To enter multiple text lines, press Enter between each line.



There are options that apply only to Multiline text segments. For more information, see “Creating Multiline Text.”

*The lettering appears in the workspace.*



- In the Properties panel, under the Text category, select the font you want to apply to the lettering.

## Creating Arced Lettering

Use the Arc  text tool to create a text segment in a arced shape.

The arc will extend based on the length of text entered in the Enter Text box.

For example, if you select to justify the text to the Left, Right or Center, the curve will extend accordingly when the text is longer than the length of the arc you have drawn. But, if you choose Fill Box or Fill Baseline, the base curve will not be extended without changing the height of the text.



### To create arced lettering:

- 1 In the Lettering Toolbar, select the Arc  tool.
  - 2 Click a starting point with the mouse, and then release.
  - 3 Drag your cursor to the right to form the base of your arc.
  - 4 Click your mouse again.  
*Your cursor becomes a flexible arc.*
  - 5 Click your mouse again when the arc is the desired size.  
*Your baseline is set. Now, you set the height of your arc by dragging your mouse.*
  - 6 Drag your mouse inward or outward to form the height of your lettering.
  - 7 Click your mouse again when the arc is the size you want.  
*You see the Enter Text dialog.*
-  The flexible arc allows you to make the arc any size you want. Check the status line at the bottom of your design workspace for measurements.
- 8 In the Enter Text box, enter your text.
  - 9 Click OK.  
*The lettering appears in the workspace.*

- 10 You can alter the text by shifting the beads at the base of each letter.  
*If you add or remove letters, the text will be adjusted accordingly without altering the height of the existing letters.*

## Creating Circle Lettering

The Circle text tool creates circular lettering with upper and lower text.

### To create circle lettering:

- 1 In the Lettering Toolbar, click the Circle  tool.
  - 2 Click and drag to form the base of your circle.  
*Your cursor becomes a flexible circle with a line in it. The flexible circle allows you to make the circle any size you want, and the line guides the direction of your lettering.*
-  If you want the upper portion of the circle's lettering to be on the top, make sure the line is facing upwards. Check the status line for measurements.
- 3 Let go of your mouse button. Click and drag your mouse again to form the height of your lettering.  
*You see the Circle baseline text box.*
  - 4 In the Upper and Lower boxes, enter your lettering.
  - 5 Click OK.  
*The lettering appears in the design workspace.*
  - 6 You can alter the text by shifting the beads at the base of each letter.  
*If you add or remove letters, the text will be adjusted accordingly without altering the height of the existing letters.*

## Creating Lettering on an Angle

The Line Angle creates horizontal lettering that follows the baseline of a box that you draw. You can justify the lettering to fill this box.

### To create lettering on an angle:

- 1 In the Lettering Toolbar, click the Line Angle  tool.
- 2 To form the base of your box (the text length), left-click and drag your mouse to the right. Do not let go of the mouse until you have drawn the height of your box.
- 3 To form the height of your box (the text height), move your mouse upwards. When the box is the size you want, let go of the mouse button.
- 4 Left-click the design workspace to enter the text.  
*You see the Enter Text dialog.*
- 5 Enter the text in the Enter Text box. To enter multiple text lines, press Enter between each line.



There are options that apply only to Multiline text segments. For more information, see “Creating Multiline Text.”

- 6 Click OK.  
*The lettering appears in the workspace.*
- 7 In the Properties panel, under the Text category, select the font you want to apply to the lettering.

## Creating Monograms

You can create three-letter monogram lettering by using either monogram fonts or regular fonts. For example, Monogram 2 is a standard monogram font but you can also purchase other optional monogram fonts such

as Classic Monogram, Circle Monogram, or Monogram 1. You can use decorations with some monogram fonts. A decoration can be a border or brackets around the monogram.

When you use regular fonts to create three-letter monogram lettering, you are creating simulated three letter monogram lettering. To set the height of the two outside letters, you use the Monogram Height setting in the Text Segment Settings page.



You cannot use decorations when you use regular fonts for simulated three-letter monogram lettering. When you use regular fonts, the outside letters are automatically set to a pull-compensation of 112% and the inside letter is set to a pull-compensation of 87%.

### To create three-letter monogram lettering:

- 1 In the Lettering Toolbar, click the Three-Letter Monogram  tool.
- 2 In the Font list on the Properties bar (or on the Tool settings page of the Properties panel), choose a monogram font.
- 3 Make any other necessary changes to the other settings.
- 4 Click to enter points to form the base of your box (the length of the monogram); release the mouse button.
- 5 To form the height of your box (the text height), move your mouse upwards. When the box is the size you want, click the mouse button again.  
*You see the 3-Letter Monogram box.*
- 6 In the Text field, enter the monogram text.
- 7 In the Decorations box, enter the code for the decoration type you want.

*For a list of the different monogram decoration types and examples, choose Help—Fonts—Monogram Lettering Decoration Codes.*

- 8 Click OK.

## Creating Vertical Lettering

The Vertical Text  tool creates a text segment along a vertical baseline. The baseline is created by clicking points in the workspace, and the letters are placed horizontally along the path.

### To create Vertical lettering:

- 1 In the Lettering toolbar, click the Vertical text  tool.
- 2 To form the text baseline, use Bezier curves.
- 3 Press Enter to complete the baseline.  
*You see the Enter Text dialog.*
- 4 In the Enter Text dialog, type in the desired text. To enter multiple text lines, press Enter between each line.



There are options that apply only to Multiline text segments. For more information, see “Creating Multiline Text.”

- 5 Click OK.  
*The lettering appears in the workspace.*
- 6 In the Properties panel select the font you want to apply to the segment.
- 7 In the Properties panel, the following properties apply specifically to Vertical text:
  - ♦ **Vertical Spacing:** Determines the spacing between each letter. This is expressed as a percentage of the font’s reference height. (default is 25%).
  - ♦ Spacing Type: Choose either “By line” or “Fixed.”
    - ♦ **By Line** means that the vertical spacing between the baselines of each letter is the same, regardless of which letters are in the string; the

spacing is determined by the reference height of the selected font, plus the Vertical spacing property.

- ♦ When **Fixed** spacing is selected, the spacing between characters will take into account differing heights of the letters, so that there is equal vertical spacing between characters.
- ♦ **Justification:** Determines how the letters in the Vertical text segment are distributed along the segment; select either Top, Bottom, Middle, or Fit to line.

- 8 Press Enter to apply the settings.

## Selecting a Font

### Embroidery Fonts versus TrueType® Fonts

In Tajima DG16 by Pulse, you can choose to create lettering using either embroidery fonts or TrueType fonts.

There are a large variety of embroidery fonts to choose from, that come included with the software. These fonts were digitized specifically for the embroidery industry and are installed in C:\Users\Program Data\Tajima\DG16 by Pulse\Fonts.

During installation, the software locates all the TrueType® fonts you have installed on your computer. When you use TrueType fonts to create lettering, the font is used as an outline, and a standard fill is applied to this outline.

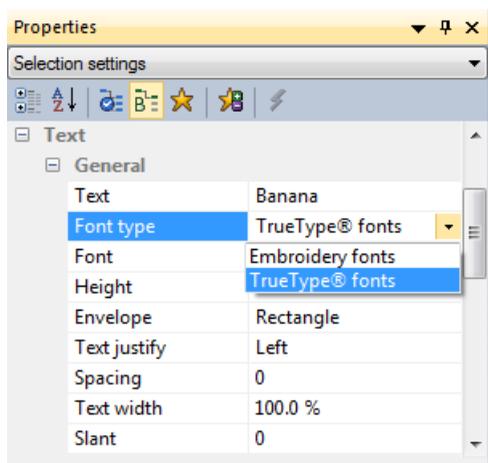


TrueType® fonts are installed by your computer’s operating system, not by Tajima DG16 by Pulse.

In either case, you can change the properties of the font's fill in the Satin area of the Properties dialog.

### To select a font:

- 1 Select the text segment, using the Select tool.
- 2 Display the Properties panel, if it is not already visible. (View—Docking Windows and Toolbars—Properties).
- 3 In the Properties panel, choose Selection settings, and expand the Text Category.



- 4 In the Text category, do the following:
  - ◆ Click in the Font Type field, and choose either Embroidery fonts or TrueType® fonts.
  - ◆ Click in the Font field, and click the arrow on the right side of the field to display a list of fonts.
  - ◆ Select a font from the list.

*The lettering in your design will change to the chosen font.*

Only those characters found within the current font will be displayed in the text segment; if you enter characters that are not found in the selected font, an error message will appear.



## Note concerning the different types of embroidery font files:

In Tajima DG16 by Pulse, there are a number of different types of embroidery font files. Each of these different file types has its own icon in the font list. This table shows the type of embroidery font that each icon signifies.

Symbol	Font Type
	"Old style" Embroidery fonts
	New style fonts (secured)
	New style fonts (unsecured)
	New style fonts with outlines (secured)
	New style fonts with outlines (unsecured)

For more information on the various types of embroidery fonts, please refer to the Font Help (Getting Started—Icons for embroidery fonts).

## Drawing Curved Lines for Lettering

You can draw curves and complex shapes with Bezier curves. You create curves by dragging direction lines and points.

### To draw curved lines:

- 1 To draw a baseline for lettering, select the Text tool.
- 2 On the design workspace, position the cross hair where you want to place the first anchor point and click to place the point.
- 3 Position the cross hair where you want the next anchor point.
- 4 Click and drag to place additional anchor points.

- 5 Press Enter to finish the segment.  
*You see the Enter Text dialog.*
- 6 In the Enter Text box, enter your text.
- 7 Click OK.  
*The lettering appears in the workspace.*

## Drawing Diagonal Lines for Lettering

You can draw lines constrained to 15° increments. You can also create zigzag lines using this command.



If you make mistakes as you draw, you can undo your work by pressing **BACKSPACE**.

### To draw lines at 15° increments:

As an example, this procedure describes how to draw zigzag lines.

- 1 In the Lettering Toolbar, click the Text  tool to draw a baseline for lettering.
- 2 On the design workspace, position the cross hair where you want to place the first anchor point and click to place the point.
- 3 Position the cross hair where you want the next anchor point.
- 4 Hold down shift.
- 5 Position the cross hair to create a diagonal line and click to place the second anchor point. The line will be constrained to 15° increments.
- 6 Repeat step 5 to create a series of diagonal lines.
- 7 Press ENTER to finish the segment.  
*You see the Enter Text dialog.*
- 8 In the Enter Text box, enter your text.
- 9 Click OK.  
*The lettering appears in the workspace.*

## Converting Lettering to Individual Segments

You can convert lettering to individual segments so that you can edit individual letters. For example, you can move letters around or change the color or density of letters to achieve special effects.



Lettering segment

Lettering segment converted to individual segments

### To convert lettering to segments:

- 1 Select the lettering you want to convert to segments.
- 2 Do one of the following:
  - ♦ Click Convert  on the ribbon and choose “Text to Segments” from the shortcut menu.
  - ♦ Press = on your keyboard and choose Segments from the shortcut menu.

## Converting Lettering to a Stitch Segment

Tajima DG16 by Pulse allows you to convert lettering into stitch segments. Outline changes made to any part of the design will not affect stitch segments. You cannot perform any outline editing on stitch segments except to resize, reflect, rotate, and change the color of these stitch segments; however, major editing is not advisable.

With the exception of the previously mentioned outline edits, the stitches which are part of a stitch segment can only be modified by direct stitch editing. If you want to perform more advanced outline edits on stitch segments, then you must selectively perform a

Stitch to Outline conversion (STO) to the segments and convert them to our more advanced segment types. However, this will not guarantee the preservation of your stitches.

### To convert lettering to a stitch segment:

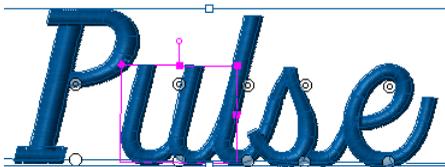
- 1 Select the lettering you want to convert to stitch segment.
- 2 Do one of the following:
  - Click Convert  on the ribbon and choose Outline to Stitch Segment from the shortcut menu.
  - Press the = key and choose Outline to Stitch Segments from the shortcut menu.

## Changing the Color of Letters Individually

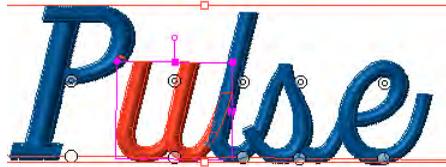
You can easily change the color/thread number of individual letters in any kind of text segment, using the select tool and the letter beads.

### To change the color of an individual letter in a text segment:

- 1 Using the Select  tool, select the lettering segment.
- 2 Select a letter by clicking either its center bead or its kerning bead.  
*The letter is surrounded by a selection frame.*



- 3 With the letter selected, click the desired color on the current thread palette.  
*The letter will change to the new color.*



- 4 Repeat steps 2-3 for any other letters you want to change in the text segment.
- 5 When finished, click in the background to de-select the segment.



## Inserting Color Changes

You can insert color change codes between two letters using the tilde (~) mark. You can enter only one color change between each letter.

### To insert a color change:

- 1 Select the lettering segment.
- 2 Display the Selection Properties in the Properties panel.
- 3 In the Text box enter the tilde (~) sign between the letters.

*For example, if you want to add a color change between each letter in the name Jane, you would enter: J~A~N~E.*



The colors in your lettering will change according to the color palette on the left side of your screen.

- 4 Press **Enter** to apply the change.  
*You see the lettering altered accordingly.*

## Rainbow Text

The Rainbow text **AB** tool is a way to instantly create multi-colored text in a design. The Rainbow text tool inserts a color change at the end of each letter in the selected text, and the next color is chosen randomly from the threads in the active palette.

### To use Rainbow text:

- 1 Open a design contain text, or create a new text segment.
- 2 Select the text.
- 3 On the Text toolbar, click the Rainbow text **AB** tool.

*The text changes to multiple colors.*



To see a different combinations of colors, click the icon again – a new random arrangement will be generated each time.

## Kerning the Space Between Letters

Kerning adjusts the space between two adjacent letters, making text more visually appealing and easier to read. You can kern text segments visually by clicking and dragging on the letter you want to adjust, helping you create lettering that looks balanced and evenly spaced. You can also

adjust the kerning by entering any number of kerning marks in the Text box. One mark represents 1/20th of the letter M's width.

### To kern the space between letters visually:

- 1 Create your lettering.
- 2 Select your lettering, if it is not already selected.
- 3 Place your pointer over the kerning point located at the base of the letter you want to move.  
*The mouse changes to a small triangle.*
- 4 Click the point and drag the letter.  
*The lettering changes accordingly.*



### To kern the space between groups of letters visually:

- 1 Create your lettering.
- 2 Select your lettering, if it is not already selected.
- 3 Place your pointer over the kerning point located at the base of the letters you want to move.  
*The mouse changes to a small triangle.*
- 4 Press **CTRL** on your keyboard.
- 5 Click the point and drag the letters.  
All the letters to the left of the selected letters, including the selected letter, are moved as a group. The spacing between these letters remains unaltered.  
*The lettering changes accordingly.*



Kerning  
Kerning  
Kerning

### To move letters closer together:

- 1 Create your lettering.
- 2 Select your lettering, if it is not already selected.
- 3 In the Text box (under the Selection Settings on the properties panel), enter the less than sign (<) between the letters you want to kern.

For example, if you wanted to tighten the space between the "K" and "e" in the word Kerning, you would enter: K<<<<erning.

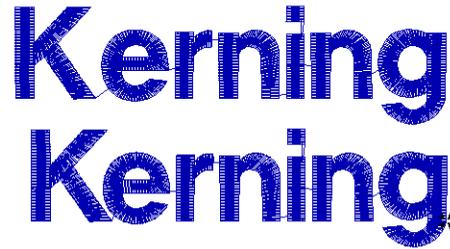
- 4 Press **ENTER** to apply the change.  
*You see the lettering altered accordingly.*

### To move letters farther apart:

- 1 Select a text segment.
- 2 In the Text box of the Selection Settings page, enter the more than sign (>) between the letters you want to kern.

For example, if you wanted more space between the "K" and "e" in the word Kerning, you would enter: K>>>>erning.

- 3 Press **ENTER** to apply the change.  
*You see the lettering altered accordingly.*



Kerning  
Kerning  
Kerning

*Normal and adjusted kerning*

## Resetting Text Kerning

If, after making modifications to the kerning of a segment, you may need to return the lettering to its original state (i.e., reset all the kernings to the default values). You can do this using the Reset Kerning command.

### To reset the kerning:

- 1 Using the Select  tool, select a text segment.
- 2 Right-click, or press Ctrl+E.  
*You see a shortcut menu.*
- 3 From the menu, select Reset Kerning Points.  
*The kerning points will be reset to the default values.*

## Removing Text Edits

When an individual letter is selected edit it using the letter frame handles; also you can use the letter beads to move the letter off the baseline (see "Creating Lettering—Editing Lettering Individually").

To return a text segment that has been edited in this way to its original state, use the Remove Text Edit command. This command reverses all the changes made to the position, width, slant, and size of letters in the selected segment.

To undo text edits:

- 1 Using the Select  tool, select a text segment.
- 2 Right-click, or press Ctrl+E.  
*You see a shortcut menu.*
- 3 From the menu, select Remove Text Edits.  
*You see the text segment return to its original state.*

## Modifying Text

You can use the modify text command in the shortcut menu to change the letters in a text segment. The segment will automatically incorporate the changes as you type.

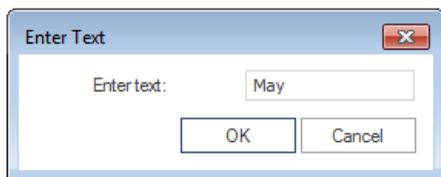


When modifying text segments, you should be careful of how other segments will be affected. For more information on the general rules of editing segments, see "Editing Segments".

### To modify text segments visually:

- 1 Using the Select  tool, select the existing text.  
*You see the handles around the selected text segment.*
- 2 Right-click, or press Ctrl+E.  
*You see a shortcut menu.*
- 3 Choose Modify Text... from the menu.  
*You see the Enter Text dialog.*

Edit the text in this box. (In this example, delete the "R" from "Mary").



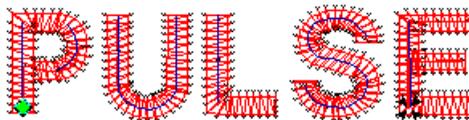
- 4 Click OK.  
*The text segment will be updated.*

## Using Line Carving to Improve Small Lettering

You can use the Line Carving  tool to improve the quality of small lettering that is on top of a background Fill. When you sew small lettering on top of a standard Fill, the underlay stitches for the lettering may sew irregularly because the Fill stitches shift during the sewing of the underlay. To prevent the stitches in the Fill from shifting, you can use Line Carving, instead of regular underlay. The line carving provides a suitable underlay to make the lettering stand out from the background Fill and ensures that the Fill background does not move while the text is sewn, improving stitch quality. For the lettering segment, you clear the Line Carving setting. For the standard Fill segment, you leave the Enable Carving setting selected since this is the default.

### To use line carving to improve small lettering:

- 1 Create a Fill background with the Complex Fill  tool.
- 2 Create the lettering
- 3 Place the lettering on the Fill background.
- 4 Click the Line Carving  tool and digitize the line carving in the middle of the Satin lettering as in the example below:



- 5 Select all the line carving segments.
- 6 To move the line carving on top of the Fill background and behind the lettering,

choose Segment—Resequence—Move Later by 1.

- 7 Select the lettering.
- 8 In the Properties Panel-Segment Settings, select the Carved Pattern tab.
- 9 Uncheck Activate Line Carving.
- 10 Press G to regenerate stitches.

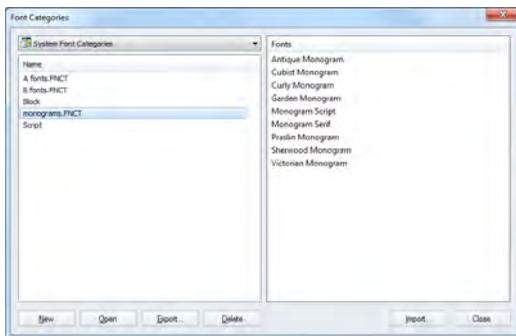
## Font Categorization

With the number of standard and optional fonts available, it can be time-consuming to find the font you need.

Font categorization helps you to organize your fonts into lists, so that it is easier to find the ones you need quickly. For example, you can use the font categorization tool to create a list that just includes Monogram fonts, or just those fonts that are suitable for small lettering.

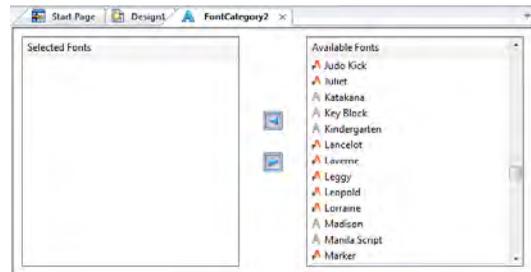
### To Create a new Font Category:

- 1 From menu bar, On the Manage tab, select Font Categories.  
*You see the Font Manager dialog.*

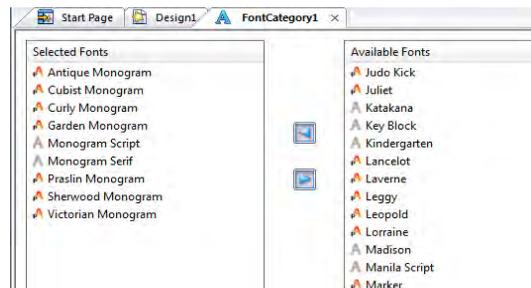


- 2 Click the New button.

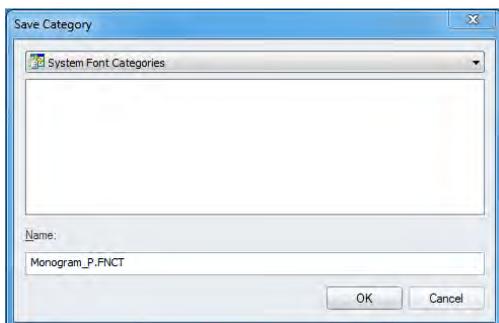
*A new tab opens in the workspace, with two columns: The column to the right shows all your available fonts, and the column on the left is for the selected fonts.*



- 3 Select one or more fonts from the Available Fonts list, and click the left arrow  to add them to the Selected fonts side. Fonts that you do not want in the category may be removed by selecting them and clicking the right arrow .



- 4 Click the Save button, or choose File—Save as.  
*You see the Save Category dialog; modify the font category name appropriately (the extension must remain \*.fnct).*



**5** Click OK.

*The new font category will be saved, and will appear in the font category list when you select a font.*

## Font Manager

The Font Manager is a tool that allows you to make your own custom fonts into embroidery font files that can be used with Tajima DG16 by Pulse text tools. You can create a custom font in one of two ways:

**From TTF:** Create a new font file, and then import the characters (letters, numbers, punctuation marks, etc.) from an existing TrueType® (TTF) font. The Font Manager uses Tajima DG16 by Pulse’s advanced VBE (Vector Based Embroidery) technology to generate high quality stitching from TTF shapes.

**From embroidery files:** You can also create a custom font by digitizing individual letters, numbers, punctuation marks, etc. as designs in Tajima DG16 by Pulse, and then saving them as a new font. The \*.fon file so created is comprised of a set of outline files, having either \*.pof or \*.pxf extensions.

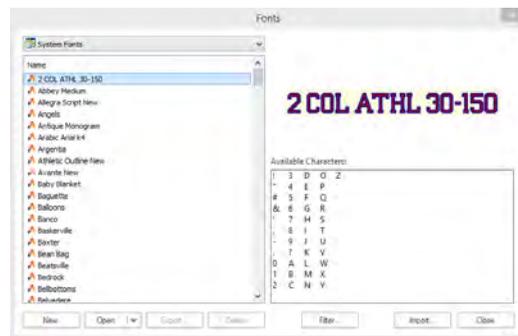
## Opening and Closing Font Manager

Use the Font Manager dialog to view existing embroidery fonts.

### To open Font Manager:

- 1 From the menu bar, choose Tools–Manage–Fonts...

*You see the Font Manager window.*



- 2 Select one of the following:

- ◆ Click the New button to create a new font.

*You see the Font Properties dialog.*

- ◆ To open an existing font, select the font from the list and click Open.
- ◆ To export a font to a different folder or directory select the font name from the list and click Export. A “Save as” dialog will open, and you can save the font to another directory.
- ◆ To Import a font into your Tajima DG16 by Pulse fonts directory, click the Import button. A dialog will open, allowing you to browse to the location of the file you want to import.

- 3 To exit the Font Manager, click **Close**.

## Filtering the fonts list

The list of fonts shown in the Font Manager dialog can be long and unwieldy. It is now possible, with the Filter tool, to view only a subset of the entire list. You can filter either by the font's type or its category.

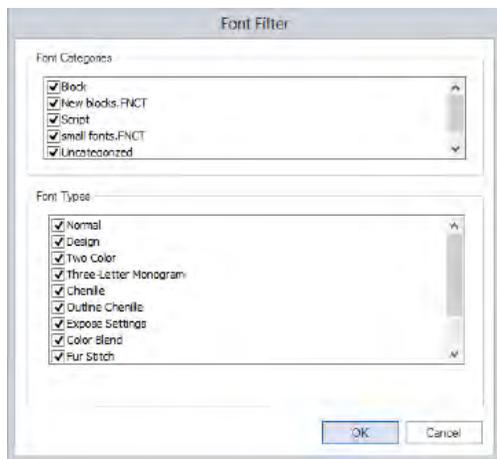


The font type is assigned when the font is originally digitized, and may be viewed in the Font Properties dialog (see following topic).

Font categories, on the other hand, are created by the user, and individual fonts can be assigned to them as needed (see Creating Lettering—Font Categorization).

### To filter the font list:

- 1 From the menu bar, choose Tools—Manage—Fonts...  
*You see the Font Manager window.*
- 2 Click the Filter button.  
*You see the Font filter dialog.*



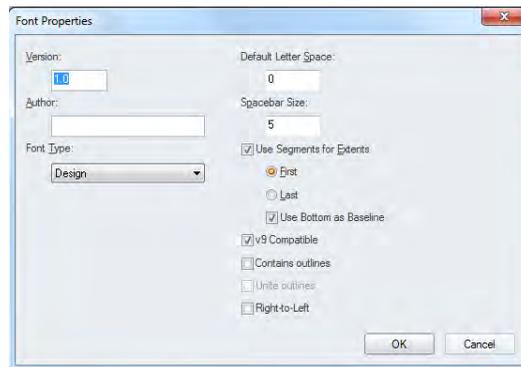
- 3 In the font type and/or font category windows, uncheck all the types or categories you want to hide.
- 4 Click OK.  
*The list of fonts shown in the Font Manager dialog will change accordingly.*

## Setting Font Properties

Before you add characters to a font, you must set up the font's properties. These properties apply whether you are creating the font from TTF or embroidery.

### To set up font properties:

- 1 Choose Tools—Manage—Fonts.  
*The Font manager dialog appears.*
- 2 In the Font Manager dialog, click New.  
*You see the Font Properties dialog.*
- 3 In the Version box, enter a version number.



- 4 In the Author box, enter your name or the name of the person who digitized the font, symbol, or design.
- 5 In the Font Type list, choose the type of font you are creating. You can choose either Normal, Design, Chenille, Two Color, Outline Chenille, Monogram, or Color Blend.
- 6 In the Default Letter Space box, enter the font space to adjust the standard kerning between each letter.  
The Default Letter Space is 1/20 the width of your reference letter.



You can also enter negative values in the Default Letter Space box. Negative values move letters closer together. Positive values move letters farther apart.

7 In the Spacebar size box, enter the length of the space. You can customize the size of the space between fonts.

*The Spacebar unit is 1/20 the width of your reference letter.*

8 To determine the segment to use as the boundary of the letter instead of using the normal bounding box, check the “Use segment for extents” box. (Note that this is only applicable if the letters in the font contain more than one segment). Once this option is enabled, choose one of the following:

- ◆ **First.** The first segment in each letter is used as the extent.
- ◆ **Last.** The last segment in each letter is used as the extent.
- ◆ Select **Use Bottom as Baseline** to use the bottom of the extents box as the baseline for all letters. If unselected, the bottom of the letters will be used as the baseline.

9 To create a font that is compatible with Version 9 of Tajima DG16 by Pulse, use \*.pof files in your font, and check the “v9 Compatible” check box in the Font Creator Properties dialog.

10 To include vector outlines with the new font, do the following:

- ◆ Check the Contains outlines checkbox.
- ◆ (Optional) Check Unite Outlines; this causes outlines to be sewn together, rather than one at a time.



This option is useful for script fonts, which will have overlapping outlines. Block fonts, which do not have overlapping outlines, are unaffected by the Unite Outlines option.

11 Check Right-to-left to create a font that will sew in right to left order.

12 Click OK.

*You see a blank font file window. As you add characters to the font file, this window will be used to display them.*

## Using Tools on the Font Manager Toolbar

The following tools are unique to the font manager. They appear along the top edge of the workspace when you are creating a new font.

Tool	What it does
	<b>Add Characters:</b> Add characters from TTF to an opened font file.
	<b>Pack:</b> Creates a compressed.fon file from the new font.
	<b>Kerning:</b> Opens a dialog that lets you adjust the kerning of each letter.
	<b>Visual Kerning:</b> Opens a dialog that allows you to adjust the kerning of pairs of letters visually.
	<b>Font Properties:</b> Allows you to view and edit the font properties of an opened font file.

## Creating a Custom font from a TTF

The Font Manager allows you to add new characters to a font file. Once you open the Font Manager, you will need to:

- Set up font properties
- Add characters to your font file

As you use the Character Generation Wizard to add one or more characters to your font file, you will be able to import a list of characters that you want selected. You can use this feature to save time when selecting a large number of characters.

To import a list of characters, you must create a text file (\*.txt file extension) containing a list of characters separated by a carriage return or

comma. These characters must be in Hexadecimal or Decimal Unicode format. You can create text files using a mixture of Hexadecimal and Decimal values. Hexadecimal values must use the following format: 0x0000. The first line of Hexadecimal and Decimal values is a filler line and can be left blank in the file.



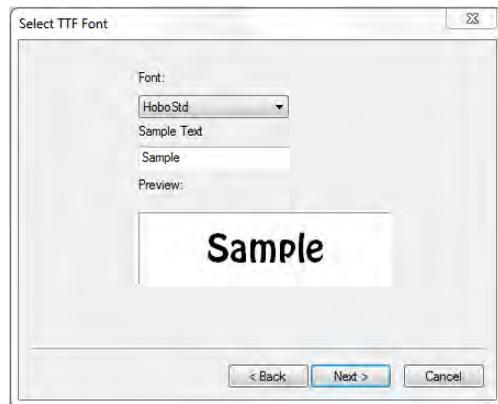
You must ensure that your text file is saved using ANSI encoding in order for the file to import properly in the Character Generation Wizard.

For examples of Hexadecimal and Decimal text file entries, see the table below:

Format	Examples (*.txt file)
Hexadecimal	<first line is ignored> 0x0054
	0x0055
	0x0056
	0x0057
Hexadecimal	<first line is ignored> 0x0054,0x0055,0x0056,0x0057
	<first line is ignored> 84
	85
	86
Decimal	87
	<first line is ignored> 84,85,86,87

### To add characters to your font

- 1 Do one of the following:
  - ◆ Choose Edit—Add Characters—Add Characters from TTF.
  - ◆ Click the Add Characters  tool from the Edit toolbar.  
*You see the Character Generation Wizard.*
- 2 Click Next to continue.  
*You see the Select TTF Font window.*



- 3 From the Font list, select the source TrueType® font you want to use for the new characters.
- 4 In the Sample Text box, enter text to be used as a sample of your new characters.  
*You see a sample of the new characters in the Preview area.*
- 5 Click Next.  
*You see the Select Characters window.*
- 6 To select the characters you want generated from the font, do one or more of the following:
  - ◆ To select an individual character, click the character.
  - ◆ To select multiple characters, press Ctrl while selecting the characters you want to generate.
  - ◆ To select a range of characters, click the first character in the range. Press Shift while selecting the last character in the group you want to generate.
  - ◆ To select all characters, click Select All.
  - ◆ To erase your character selection, click Clear All.
- 7 To import a list of characters you want selected, complete the following:
  - ◆ Click Import.  
*You see the Import Characters dialog.*
  - ◆ Choose one of the following ways to import characters:

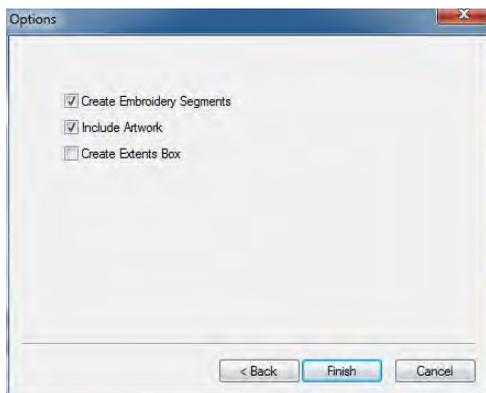
- ♦ Add to current selection
  - ♦ Replace current selection
- You see the Open dialog.*
- ♦ From the Look in list, browse to the location of the characters you want.
  - ♦ In the File name box, enter the file name, or select the file you want to open by clicking the file. To open multiple files, press **Ctrl** while selecting the files you want to open. To open all files, select any file and press Ctrl+A.



You must ensure that your text file is saved using ANSI encoding in order for the file to import properly in the Character Generation Wizard.

- ♦ In the Files of type list, select a file type for the character you want to open.
  - ♦ Click Open.
- You see the characters that were specified in your text file selected in the Select Characters window.*

- 8 Click Next to continue.  
*You see Options window.*



- 9 Select one or more of the following options you want to apply:
- ♦ **Create Embroidery Segments.**  
Generates stitches for display in the Font window. This allows you to see the design as 2-D or 3-D stitches.

- ♦ **Include Artwork.** Includes an artwork segment with the embroidery character. This segment is identical to the TTF character.
- ♦ **Create Extents Box.** Creates a box representing the extents of the character. Select this option if you plan to use the *Use Segments for Extents* feature from the Font Properties dialog.

- 10 Click Finish to finish adding characters.  
*The new character(s) will be added to the font file window. Each new character appears in its own box with a Unicode value below it. Characters are sorted by this Unicode value.*

## Creating a Custom Font from embroidery files

You can use the Font Manager to create custom fonts. To create a custom font, you digitize individual letters, symbols, or designs in Tajima DG16 by Pulse and then use the Font Creator to name the new font. The fonts created with the Font Creator have a \*.fon extension. The \*.fon file is comprised of a set of outline files, having either \*.pof or \*.pxf extensions.

### The “Extents” Option

When creating custom fonts, you can use the first or last segments of letters as the extent in order to get better control of how letters fit together.

This option useful for Italic and Script fonts. For each letter created using the Use segment for extents option, you must create an extra artwork segment that is the first or last segment in the sequence of the letter. This segment should represent the border of the font. When you create lettering in a design and

use fonts with the first segment enabled, the extra segment will be removed.

You can also have multiple \*.pof or \*.pxf files for a single character (used for right to left sewing sequence) and you can Mass load \*.pof or \*.pxf files.



Custom fonts created with \*.pxf files can be used with recent versions of Tajima DG16 by Pulse. They cannot, however, be used with Version 9 of Tajima DG16 by Pulse.

### To create a custom font:

- 1 Digitize all the individual letters, symbols, and designs and save them to a folder.  
*You see the Font Creator dialog.*
- 2 On the Manage tab, select Fonts.  
*You see the Font manager Dialog.*
- 3 In the Font Manager dialog, select **New**.  
*You see the Font properties dialog.*
- 4 Fill in the fields in Font Properties dialog. For more information, see under “Setting font properties.”
- 5 Click OK.  
*A new tab, labelled “Font1” will open in the Workspace.*
- 6 Click Add Characters  to add additional letters to your font.
- 7 Choose one of the following methods of adding letters:
  - ◆ Upper Characters – The sewing sequence results will be from left to right. Letters are like regular letters but all UPPER case.
  - ◆ Upper Characters-Right – The sewing sequence results will be from right to left. Letters are like regular letters but all UPPER case.
  - ◆ Lower Characters – The sewing sequence results will be from left to

right. Letters are like regular letters but all LOWER case.

- ◆ Lower Characters-Right – The sewing sequence results will be from right to left. Letters are like regular letters but all LOWER case.



In order to use the above methods of mass loading, the files to be imported must be named after the corresponding keystroke. For example, to input Uppercase characters, name the files A.pof, B.pof, C.pof... etc.

- ◆ Add Characters-Unicode – Use this method if the files have been saved with the Unicode hexadecimal code incorporated in the file name. To use this option, the files must be saved in the following format:  
**nnnn\_xxx[r].pof**  
In this format, “nnnn” stands for the font name (optional), the xxx is the hexadecimal number of the character, and the “r” (also optional) determines that the character is to be sewn right-to-left.
- ◆ Add **One character...** and **Add One Character-right...** to add a single file to the font.

*You will then see the Add dialog box depending on the option you chose.*

- 8 Select the letter(s), symbol(s), or designs.
- 9 Click Open.

*The Font Creator box lets you know how many letters have been added.*



You can now include an outline border on the individual letters and/or symbol in the custom font. You must ensure that the “Contains Outlines” box on the Font Properties page is checked.

## Selecting Characters in a Font File

You can use numerous ways to select characters in a font file. Characters are shown as individual icons in the font file.

### To select characters in a font file:

- 1 Open a font file.
- 2 To select an individual character, click the character.
- 3 To select multiple characters, do any of the following:
  - ♦ Click and drag across all the characters you want to select.
  - ♦ Click a character at the start of your selection. Press Shift while you click the character at the end of your selection. To extend the range of selected characters, press Shift again or Shift+CTRL while you click any character outside the range of segments already selected.
  - ♦ Click a character. Press CTRL while you click each character not already selected.

*The active characters are shaded.*

## Editing Characters in a Font File

You can easily make changes to characters in font files.

### To edit a character:

- 1 From the font file window, select the character.
- 2 Do one of the following:
  - ♦ Choose Edit—Edit Character.
  - ♦ Right-click and select Edit Character from the menu.
  - ♦ Double-click the character.

*The character opens in your workspace.*

- 3 Edit your character as you would any other Outline file.
- 4 Save your changes.
 

*Your changes will be reflected in the character thumbnail shown in Font Manager.*

## Adding an Outline to the characters in a font

You are now able to create outline borders around characters you add to a custom font. The border can be made up of either run stitches or Steil stitches.



In order that the outline appear in the new font, you **MUST** check the “Contains Outlines” box in the properties dialog.

### To add a border outline to a font:

- 1 Create a new font file.
- 2 In the Font Properties page, check the Contains Outlines option.



You can also select the option to Unite Outlines; this option causes outlines to be sewn together, rather than one at a time. This option is useful for script fonts, which will have overlapping outlines. Block fonts, which do not have overlapping outlines, are unaffected by the Unite Outlines option.

- 3 Choose the characters you want, and convert them to embroidery. Ensure that the “Include Artwork” box is checked on the Font Manager Options. See “Setting Font Properties.”
- 4 Open the newly-created font.
 

*You see the characters in the font open in the font file window.*
- 5 Select and open the characters for editing.
- 6 Select the artwork path in your lettering outlining the letters.

- 7 Right-click and choose Convert Segment to... and choose Run or Steil from the menu.
- 8 The Outline is converted to stitches. At this point, it can be edited like any other run or Steil segment.

## Removing Characters from a Font File

Font Manager allows you to delete characters in new and existing font files.

### To remove characters from a font file:

- 1 Select one or more characters you want to remove.  
*The active characters are shaded.*
- 2 Do one of the following:
  - ♦ Choose Edit—Delete.
  - ♦ Press Delete on your keyboard.
  - ♦ Right-click the character and select Delete from the menu.  
*You see a confirmation message.*
- 3 Click Yes to delete the selected character.

## Saving a Font File

You can use the Save As or Save options to save font files in the Font Manager. Use the Save As option to save font files in a new location and use the Save option to save font files in their existing location.

### To save a font file in a new location:

- 1 Open a font file.
- 2 Make any necessary changes.
- 3 Choose File—Save As.  
*You see the Save As dialog.*
- 4 In the Save in list, browse to the location you want to save your font file.  
*Font files will be saved in the Font folder by default. The default folder is: C:\Program Data\Tajima\DG16 by Pulse\Fonts.*

- 5 In the File Name box, enter the file name for the font file you want to be saved.
- 6 In the Save As type list, select the file type you want the font file to be saved as.
- 7 Click Save.  
*The font file will be saved in the selected location.*



Only font files saved in the Font folder will be accessible to all lettering tools.

### To save an existing font file:

- 1 Open a font file.
- 2 Make any necessary changes.
- 3 To save the font file, do one of the following:
  - ♦ Choose File—Save.
  - ♦ Click the Save  tool from the toolbar.  
*The font file is saved in the Font folder by default.*

## Changing Font Properties

You can change the properties of a font file.

### To change font properties:

- 1 Open a font file.
- 2 Do one of the following:
  - ♦ Click the Font Properties  tool from the toolbar.
  - ♦ Choose File—Font Properties.  
*You see the Font Properties dialog.*
- 3 Make necessary changes to font property settings.
- 4 Click OK.

## Choosing a Reference Character

A reference letter is used to determine the size of kerning between letters. In a font file, you must select one character as a reference

character. Since the capital “M” is usually the largest letter in any a given font, it is normally the one used as the references letter.



If no letter is chosen as the reference letter, the reference width will just be taken from the first letter added to the new font.

The reference character determines the size of the kerning values used for the Default Letter Space and Spacebar Size settings in the Font Properties dialog. (One kerning distance is equal to 1/10th the width of a reference letter.)

### To choose a reference character:

- 1 Select the character you want to be a reference letter.  
*The active character is shaded.*
- 2 Right-click the character and choose **Set as Reference Letter** from the menu.  
*This character will determine how large the kerning should be between letters.*

## Opening a Custom Font

Before you can work with fonts in the Font Manager, you need to open them. The \*.fon file is comprised of a set of outline files, having either \*.pof or \*.pxf extensions.



Each letter or symbol you are adding needs its own separate \*.pof or \*.pxf file.

### To open a font:

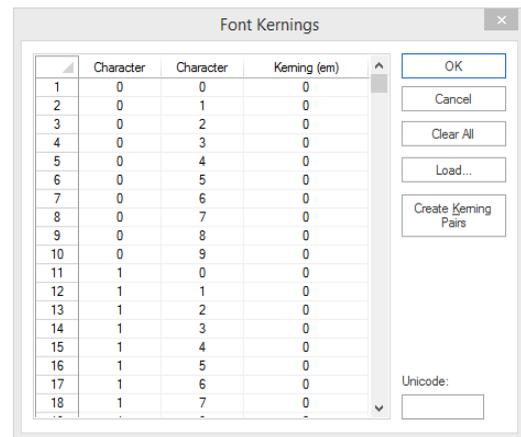
- 1 Choose Tools—Manager—Fonts.  
*You see the Font Creator dialog.*
- 2 Click Open.  
*You see the Select font file dialog.*
- 3 Select the font.
- 4 Click Open.  
*Now you can edit the font.*

## Kerning Custom Fonts

You can set separate kerning settings for each letter in a custom font using the Font Creator. You may need to set separate kernings to adjust the space between letters.

### To kern a font:

- 1 Open an existing font.
- 2 Click the Kerning  button.  
*You see the Font Kernings dialog.*



*The font Kernings dialog. The first two columns represent pairs of letters, and the third column shows the amount of kerning (in ems) between the given pair.*

- 3 Do one of the following steps:
  - ◆ To increase the space between paired letters, increase the value in the Kerning (em) column.
  - ◆ To decrease the space between paired letters, decrease the value in the Kerning (em) column.
  - ◆ Click “Clear all” to remove all the kernings from the font (all will be zeroed).
- 4 Continue to scroll down to view or change the kerning between the different letter pairs in the font.

- Click OK when you are finished adjusting the kerning.

The first time the Font Kernings dialog is opened, a row for every possible pair combination of characters that exist in the font is created and populated with the default value of zero.



If you subsequently add new characters to the font, and then re-open the Font Kernings dialog, kerning pairs for the new characters will not be created automatically. However, you can click the "Create Kerning Pairs" button to generate pairs for the newly-added letters, and then add kernings as above.

## Tip: Pasting kerning data into a Font Kerning Table

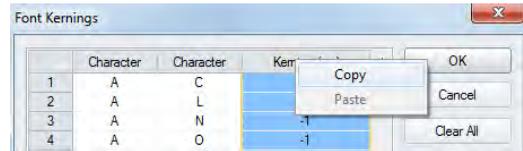
You can now use copy and paste to fill in the Font Kerning table from a table created in another program. For example, you can enter the kerning data into spreadsheet or Word table; then, copy and paste it into the kerning table of your custom font.



For the purposes of pasting/copying, you can only select one column or row in the Kerning Table at a time.

### To paste kerning data into the table:

- Copy the row/column from your existing table.
- Open your custom font, and select the Kernings  button.  
*You see the kernings table.*
- Click in the row or column heading (as appropriate) to select it.
- Right-click and select Paste from the context menu.



*The contents of the row or column will be replaced.*



You can also use right-click and select Copy to copy a column or row from one kerning table to another.

## Visual Kerning

A new tool in the font manager allows you to adjust kerning pairs visually, in the workspace.

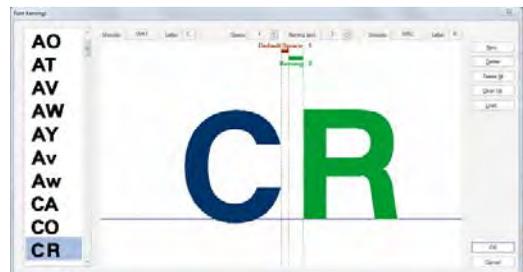
The Visual Kernings  tool allows you to actually see the results of the chosen kerning, prior to implementing the kerning in the font.

There is also a facility in the Visual Kerning dialog to allow you to load kernings from another font into the new font.

### To kern pairs of letters visually:

- Open a font.
- Click the Visual Kernings  tool.

*You see the visual kerning dialog.*



*Each pair of kerned letters appears in the column on the left. Note that only pairs with kerning already applied will appear in this tool.*

- Select a pair of letters from the column on the left of the dialog.

- 4 In the Kerning Field, click the up/down arrows to increase/decrease the kerning. *You can see the change appearing in the preview.*



You can also Adjust the default spacing (applies to the whole font) in the Visual Kernings dialog, to see how the change will affect the individual kerning.

- 5 Repeat steps 3-4 for each pair of letters in the font that you want to change.
- 6 When all the required letter pairs have been kerned, click OK.
- 7 Save the font.

## Options Available in the Visual Font Kernings dialog

In addition to changing the kernings one at a time manually, the Font Kernings dialog has the following other options available.

**New:** Opens the New Kerning dialog. Use this dialog to select a new pair (or pairs) of letters to be kerning in the Visual Kernings dialog.

**Delete:** Removes the kerning from the selected pair of letters.

**Delete All:** Removes all kernings in the open font.



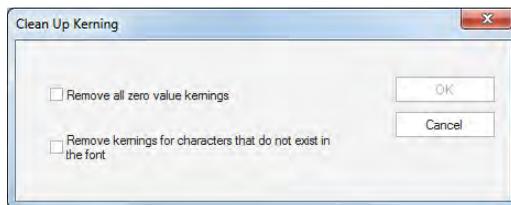
The Delete and Delete All tools do not remove the default letter spacing.

**Clean up:** When kernings are loaded or imported from another font, the list of kernings (in the left-hand column) can include some kerning pairs that are not applicable to the new, current font that you are visually kerning. This may be because one of the letters in the pair does not exist in the current font; or, it could be that the imported pairs have no kerning at all applied (i.e. kerning value is zero).

In order to reduce the kernings to a manageable number in these cases, the Visual Font Kernings dialog has an option that allows you to automatically 'clean up' (remove) unwanted kernings.

### To clean up kernings:

- 1 In the Visual Kernings dialog, click the Clean Up button. *You see the Clean up Kerning dialog.*



- 2 In the Clean Up Kerning dialog, check one or both of the these boxes:
  - Remove all zero value kernings.
  - Remove kernings for characters that do not exist in the font.
- 3 Click OK.

*The dialog will close, and the kerning pairs meeting the selected condition(s) will be removed from the list of Visual kernings.*

## Loading Kernings

Select the Load option to import Kernings from another font. This function displays a list of your existing embroidery fonts to choose from, and allows you to apply the kernings in the new font to the current font.

## To Load kernings:

- 1 In the Visual Kernings dialog, click the Load... button.

*You see the Select font file dialog.*



By default, this dialog will open to the default location for Tajima DG16 by Pulse fonts: C:\Program Data\Tajima\DG16 by Pulse\Fonts. If the font file is located elsewhere, you can use the dialog to browse to the directory containing the desired font.

- 2 Select the font containing the kernings you want to apply, and click Open.

*The dialog will close, and the selected kerning will now appear in the Visual Kerning dialog of the current font.*

- 3 Adjust the imported kernings as required.

## Auto Kerning Wizard

The Auto Kerning Wizard is a tool that can be used to change the kernings of a custom font globally. With this tool, you can simply add a Letter spacing factor, and this factor will be applied across all the character pairs in the font



Note that the Auto Kerning Wizard can only be applied to custom and unsecured fonts - it will not work on regular system fonts.

After the wizard has applied this spacing factor to all the letter pairs, a second wizard page will open. On this page you be able to select individual pairs of letters and adjust the kernings on a case-by-case basis.

## To kern a font automatically:

- 1 On the Processing tab, select the Auto Kerning  tool.

*You see the Auto kerning Preview dialog.*

Auto Kerning Preview

- 2 Use the Browse button to locate the font you want to kern, and open it.
- 3 Enter a string of text into the Preview text field.
- 4 Enter a spacing value into the Letter Spacing Factor field.



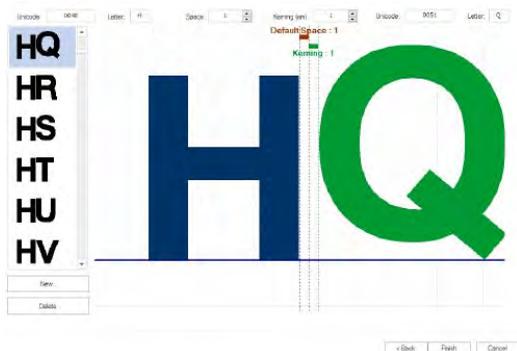
The Letter Spacing can have only whole number values, i.e. 1, 2, 3. etc.

- 5 Click Update Preview.  
*The preview shows the resulting spacing.*
- 6 Repeat the preceding steps as needed, until the kerning is adjusted correctly.
- 7 (Optional) Check one or both of the following boxes, in order to reduce the number of kerning calculations that will be required.
  - ◆ Exclude lowercase to uppercase kerning pairs: Kerning will not be calculated for pairs were the lowercase character comes first; aA will not have the new kerning applied, but Aa will have it applied.
  - ◆ Exclude lowercase to lowercase kerning pairs: Kerning will not be

calculated for pairs that are pure lower-case (e.g. aa, ab).

**8** Click Next.

You see the “Processing Kernings” progress bar; wait a few moments for the wizard to apply all the kernings to the font. Once the kernings have been generated, the Font Property page appears.



This page displays all the character pairs in a panel on the left side; along the top, it has fields showing the unicode values, letter values, spacing, and kerning values of the selected pair of characters.

- 9** To adjust the kerning of individual characters in the font, do the following.
- ◆ In the side bar, select an individual character pair
  - ◆ The preview window will display the selected pair, along with its default space and kerning values.
  - ◆ Adjust the kerning value of the selected pair individually by increasing or decreasing the number in the Kerning field.
- 10** Repeat for the kerning values of other pairs in the font.

- 11** Click Finish to apply any individual adjustments you have made, *The wizard will close. The font file will now be saved with the modified kerning values in place.*

## Adjusting the Baseline of Custom Fonts

Tajima DG16 by Pulse allows you to adjust the baseline of your custom fonts using your mouse pointer or font creator arrows.

### To adjust the baseline of custom fonts:

- 1** To adjust the current custom font against the baseline using your mouse pointer, complete the following:
  - ◆ Position your mouse pointer over your custom font.
  - ◆ Click and drag to raise or lower your custom font properly over the baseline.
- 2** To adjust the current custom font against the baseline using font creator arrows, complete the following:
  - ◆ To move the baseline to the top, center or bottom of the letter, press CTRL on your keyboard plus the up or down arrow.

## Printing individual letters from the Font Manager

You can use the Font Manager to create a print-out of some (or all) of the letters in a font.

### To print letters from the font:

- 1** From the menu bar, On the Manage tab, select Fonts.
- 2** Select a font from the list.
- 3** Click Open. *The font will open in its own tab.*

- 4 (Optional) Click on an individual letter to select it for printing; use Ctrl+click to select additional letters.



If no letters are selected, the entire font will be printed out.

- 5 Do one of the following:
  - ♦ To see a preview of the selected letters before printing it, select File—Print Preview.  
*A preview of the letters will open in the tab.*
  - ♦ To send the selected letters directly to the printer, select File—Print.  
*The Print dialog will open.*



If you only want to print the selected list of letters (instead of the whole font), click the “Selection” radio button in the Print Range area of the dialog.

- 6 Click Print.

## Saving a Design to an Existing Font

You can save a design to an existing font. You can save time and use the Save Design to Font tool rather than saving it via Tools—Manage—Fonts.

### To save a design to an existing font:

- 1 Digitize all the individual letters, symbols, and designs you want to save.
- 2 Select the design, and right-click.  
*You see a context menu.*
- 3 From the menu, select Save—Font...  
*You see the Save Design to Font dialog.*
- 4 In the Font list, select the (custom) font you want to save your design to.
- 5 In the Key Code box, enter the key code for the font.

- 6 If you only want to save selected segments from the design, select Selection Only.

- 7 Click OK.

*If the same key code already exists, you will see a confirmation message appear to overwrite the existing font. Click Yes to overwrite the font.*

## Creating a Layered Font

For users with access to the Font Manager tool, it is possible to create a new kind of Custom font called a Layered font. In a layered font, each letter is composed of a number of different elements – for example, a run, followed by a steel outline, plus a final run segment.

The sewing order of the font is determined by the Elements list. Each individual letter file in the font consists of a series of elements; the Elements are named in a particular way so that they will sew out together. That is, when a Layered font is sewn out, all the stitches in the first layer will be sewn in sequence, followed by the second layer, followed by the third, and so on.

You can also add a stop to the end of a layer; this can be useful (for example) when using a layered font to create an appliqué lettering segment. The stop will be placed at the end of the layer, and will be followed by a frame-out.

### To digitize a layered Font:

- 1 Using the artwork and/or digitizing tools, create and save one design file for each letter in the new font. Ensure that each file is composed of the same number of segments.
- 2 Select View—Toolbars and Docking windows—Element view.  
*You see the Elements view panel.*

- 3 For each letter file, do the following:
  - ♦ Select the first layer, and click the Add  Element tool.

*You see the Add to element dialog.*

- ♦ Click New

*You see the **Set element Name** dialog.*

- ♦ Type in the name for the Element, in the format Layer: N (where N=1 for the for the first layer, 2 for the second layer, etc.)

In order for the Element to be recognized as a layer by the font manager, the colon (:)  
must be included in the Element name.

If you want the layer to have a stop at the end, use the format Layer: N, Stop.



- ♦ Click OK.
  - ♦ Repeat the above series of steps for each layer in the letter.
  - ♦ Save the letter file.
- 4 For each letter in the font, repeat step 3.
  - 5 On the Manage tab, select Fonts.  
*You see the Font Manager dialog.*

- 6 In the Dialog, click New.

*You see the Font Properties dialog.*

- 7 In the Font properties dialog, select Layered in the font type list.

For more information about the other properties on this dialog, see “Setting Font Properties.”

- 8 Click the Add Characters  tool, and browse to the location of the saved letter files.

For more information, see “Creating a Custom Font from Embroidery files.”

- 9 Select File—Save As to save the font.

- 10 Enter the name of the new font in the Save as dialog, and click OK.

*The layered font will now appear in the list of fonts for Lettering tools.*

## Changing Text Properties

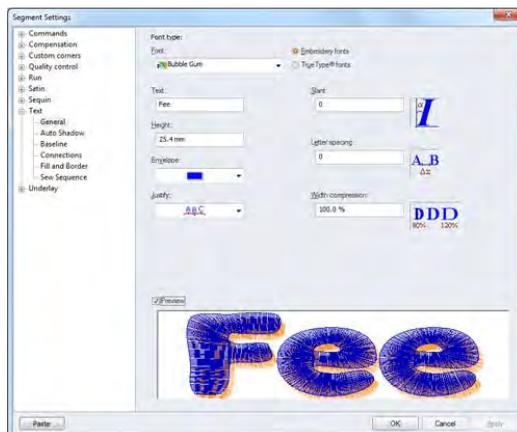
### Text Preview

A Preview of a text segment is available in the Segment Settings dialog for any available font. You can see right away what your text string will look like in the font of your choice without having to generate stitches and view it in the design workspace.

#### To preview typed text:

- 1 Select the text segment.
- 2 Check the Preview box at the bottom right of the page.
- 3 Select either Embroidery fonts or TrueType fonts by selecting the appropriate radio button.
- 4 Select a different font from the list.

*The Preview pane displays the segment in the new font.*



- 5 When you find the desired font, click OK.  
*The Text properties page closes, and the text segment displays on the workspace in the chosen font.*

## Choosing the Fill type for TrueType® lettering

You can choose different Fills for TrueType® lettering using the Fill Type setting on the Text property page. Choose from Complex Fill, Chenille, or Region Carving. You can also select Artwork or create Satin lettering.

### To choose the Fill type:

- 1 Select the TTF lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the “Fill and Border” section of the Properties panel, select the Fill type from the Fill Type list.  
*The fill in the lettering will change to match your selection.*

## Choosing the Sewing Sequence for Lettering

You can choose the direction you want to sew your lettering. You can choose to sew lettering from the Left, Right, or Center.

### To choose the sewing sequence:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display that property page.
- 3 In the Sew Sequence list, select one of the sequence types:
  - ♦ Select **Left** to sew the lettering from left to right.
  - ♦ Choose **Center** to sew the lettering from the center.
  - ♦ Choose **Right** to sew the lettering from right to left.

## Choosing the sewing order for two-color lettering

You can change the sewing order of two-color lettering. Letters can be sewn letter by letter or color by color. You may prefer to sew lettering letter by letter on baseball caps because achieving proper registration can be a challenge.

### To choose the sewing order:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 Expand the “Sew Sequence” area of the page, if necessary.
- 4 In the 2-color font sewing order field, do one of the following steps to change the sewing order of two-color fonts:
  - ♦ Select sew by colors.
  - ♦ Select sew by letters.

## Choosing the Outline Font Sewing Order

For those fonts (such as Sequin Fonts) which have the option of having an outline added, the property pages allow you to choose the order in which the fill and outline are sewn.

You can also choose to sew the outline letter by letter (so that the outline is sewn on after each letter's fill) or all letters together (so that the fill for all the letters in the segment is sewn, followed by the outline for the whole segment).

### To choose the sewing order for outline fonts:

- 1 Select the text segment.

- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 Under Sew sequence, select the Text outline sequence field, and choose one of the following options:
  - ♦ To sew the fill first and the outline afterward, select Outlines last from the Outline sequence menu.
  - ♦ To sew the outline first and the fill afterwards, select Outlines first from the Outline sequence menu.
- 4 Under Text letter sequence, choose one of the following options:
  - ♦ Select All letters to sew the Outline for the whole segment together in the sequence.
  - ♦ Select Letter by letter to make the sequence alternate between sewing fill and outline at each letter.



In the Sequin Script fonts, some letters are joined, and so the Letter by Letter sewing of outlines (Steil or Run) will not work. The outline will be added, but it will sew all at once.

## Applying a border to TrueType® (TTF) Lettering

You can apply a Fill border to an existing TTF text segment using the Fill and Border settings. Choose from Steil, Steil Only, Appliqué, Color Steil, and Run Only borders.

- Under the **Default** setting, the text will have no border added.
- The **Steil** setting will generate a Steil border to the existing text.

- **Steil Only** adds the Steil to the outline of the lettering, while removing the fill stitches.



The properties of the Steil stitches may be adjusted under the Steil tab of the properties panel.

- **Appliqué Border** creates appliqué stitches - run, tack-down, and border stitches - around the text. For more information, see “About Appliqué Borders.”
- **Color Steil:** Like the Steil setting, adds a Steil border to the text segment; but it also includes a color change between the fill stitches and the Steil border.
- **Run Only:** The TTF letters will be outlined with run stitches. The run can be converted to Two Ply, Bean, Half bean, or Programmed Run.

### To apply a border to lettering:

- 1 Select the text you wish to add a border to.
- 2 On the properties panel, click the Text  tab to display the Text properties.
- 3 In the Fill Border list, select one of the following border types:
  - ♦ Steil
  - ♦ Steil Only
  - ♦ Color Steil
  - ♦ Appliqué
  - ♦ Run Only

## Applying Borders to Outline Lettering

For those fonts which include outlines, it is possible to add a number of different stitch types to them. For example, you can choose to give the lettering a steil or run outline.

If desired, you may also include a color change between the fill and the run, steil, or appliqué border stitches. Choose one of three options for how a color change will be managed in the Text outline color change field (see step 4, below).



Fonts containing outlines are distinguished by the font type icon, which appears next to the font name. Fonts with the  icon or the  icon are outline fonts.

These various stitch types may be added using the Fill and Border settings on the text property page.

### To apply embroidery to outline fonts:

- 1 Select an Outline font text segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.
- 3 In the Border and Fill area, set the Text outline type. Choose from one of the following embroidery types or combinations to apply to the text:
  - ♦ Appliqué
  - ♦ Run and satin
  - ♦ Steil and satin
  - ♦ Appliqué and satin
  - ♦ Steil and complex fill
- 4 To insert a color change between the fill and the outline, select one of the following options in the outline color change field.
  - ♦ **None** (default setting): Fill and border will have the same color.
  - ♦ **By Sew Sequence:** The color of the fill and border will depend on the Sew Sequence setting; if this is set to “Outlines Last”, the selected needle will be the fill color, if it is set to “Outlines first” the select needle will be the outline color.

- ♦ **Automatic:** Fill color will always be the color of the selected needle, regardless of the Sew Sequence order; the border color will be determined by the next color in the needle palette.
- ♦ **Manual:** The fill color will be the color of the selected needle in the palette; the border color will be the color set in the Border Color field of the text properties page. To set this color, look under Segment settings—Text—Border and Fill.

## Adding a Dynamic Border

Dynamic Border is a setting which adds a series of satin stitches underneath the selected text segment. Dynamic Border can be applied to any kind of text - regular embroidery fonts, outline embroidery fonts, and TrueType fonts.

The Dynamic Border stitches will be generated such that they extend slightly beyond the edge of the original lettering, so that the outside edge forms a contrasting border. The degree of extension of the Dynamic Border can be adjusted by way of the Border Offset setting.

### To add a Dynamic border to text:

- 1 Select an existing text segment.
- 2 In the Selection settings, in the Dynamic border panel, check the “Add Border” box.
- 3 Press Enter to see the change.  
*The border appears around your text.*
- 4 If required, adjust the offset of the Dynamic Border by entering a value (in mm.) in the Border Offset field.



You can also change the thread color and density of the border; see “Common Border Settings”, following.

## Common Border Settings

Use the Common Border Settings to determine the color, thickness (width) and stitch density of text borders. These settings apply to two different types of text borders; those created using the “Border and Fill” settings, and those created with the “Dynamic Border” settings; note that they do not apply to borders that have been added using the “TTF border” settings.

### To adjust common border settings

- 1 Select a text segment that includes a border.
- 2 From the drop-down list in the Border color field, select a needle number to change the border color.  
*The border will change to the color of the selected needle.*
- 3 In the Border thickness field, enter the desired border width (in mm).
- 4 In the Border density field, enter the desired density (in embroidery points) of the border stitches.
- 5 Press ENTER to see the thickness and density changes.

## Modifying Letters Individually

Tajima DG16 by Pulse allows you to change the shape of letters by resizing and skewing characters. It is easy to edit individual characters in lettering, by using the frame handles (square beads) on the selection frame

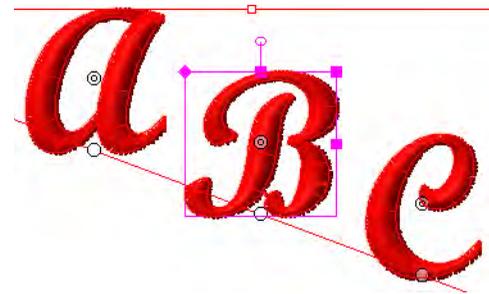
around the letter; you do not have to convert lettering into segments in order to perform character edits



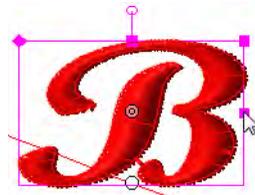
To undo any changes made using this procedure, right-click the selected text segment, and select “Remove text edits” from the context menu; this will return the letters to their original size and shape.

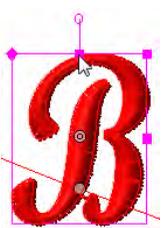
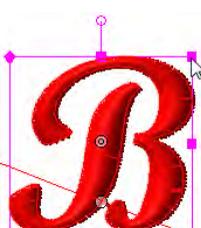
### To adjust letters manually:

- 1 Select a text segment.
- 2 Select the center bead of the character you want to edit.  
*A letter frame appears around the selected character.*



- 3 You can now resize the selected character in one of the following ways:

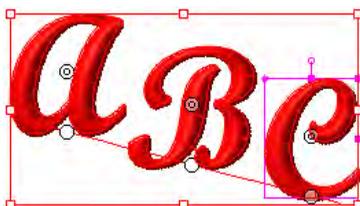
To get this:	Do this:
Change the width of a character	Select and drag the square bead in the middle of the right side of the frame. 

To get this:	Do this:
<p>Change the height of a character</p>	<p>Select and drag the square bead at the center of the top of the frame.</p> 
<p>Change the width and height of a character simultaneously</p>	<p>Select and drag the square bead in the top-right corner of the frame.</p> 

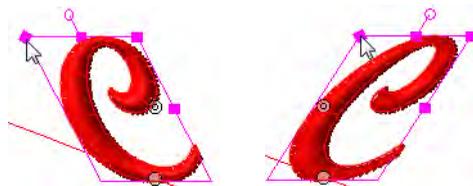
- 4 To resize another character in the lettering segment, select the center bead of the character and use the editing box to resize.
- 5 When you are finished resizing a character, click its center bead again.  
*The editing box will close.*

### To skew lettering manually:

- 1 Create your lettering.
- 2 Select the center bead of the character you want to edit.  
*A letter frame appears around the selected character.*



- 3 To skew a character left or right, do the following:
  - ♦ At the top-left of the editing box, drag the bead to the left or right.



- 4 To skew another character in the lettering segment, select the center bead of the character and use the editing box to skew.
- 5 When you are finished skewing a character, click its center bead again.  
*The editing box will close.*



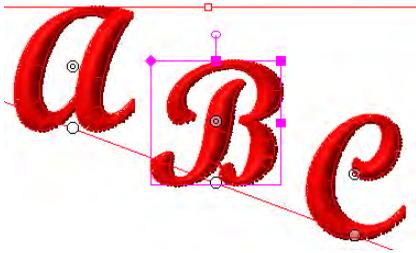
To undo any changes made using this procedure, right-click the selected text segment, and select “Remove text edits” from the context menu; this will return any skewed letters to their original state.

## Moving Letters Relative to the Baseline

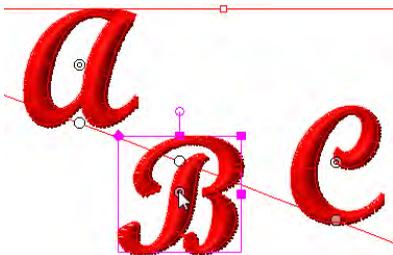
You can change the vertical position of lettering segments. When you manually move the vertical position of individual characters, the original shape of the character will remain the same.

### To change the vertical position of lettering:

- 1 Create your lettering.
- 2 Select the center bead of the character you want to edit.  
*A letter frame appears around the selected character.*



- 3 To change the vertical position of the character, click and drag the center bead up and down.



- 4 To change the position of another character in the lettering segment, select the center bead of the character and change the vertical position accordingly.
- 5 When you are finished changing the vertical position of a character, click its center bead again.

*The editing box will close.*

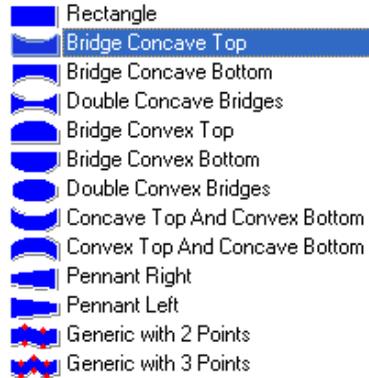


To undo any changes made using this procedure, right-click the selected text segment, and select “Remove text edits” from the context menu; this will return the letter to its original position within the text segment.

## Changing the shape of lettering with envelopes

You can change the overall shape of text using envelopes. The envelopes are a set of predetermined shapes for the ‘bounding box’

of your text segment. You can choose the envelope shape either through the Properties bar, or on the Text tab of the property panel.



*The envelope menu*



Examples of envelope shapes

### To choose an envelope:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display that property page.  
*If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.*
- 3 From the Envelope list, select a shape.  
*You see the lettering altered accordingly.*

### To choose an envelope using the Properties bar:

- 1 Select the lettering segment.

- 2 In the Envelope list, select a shape.  
*You see the lettering altered accordingly.*

If you want to further modify the shape of the envelope around a text segment, use the Edit Envelope  tool from the Segment edit toolbar, and click and drag one or more of the handles to reshape it.

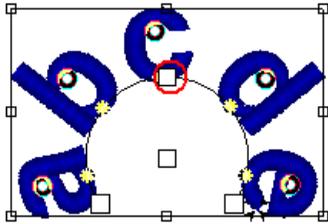


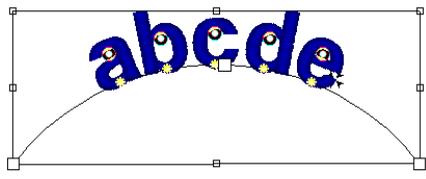
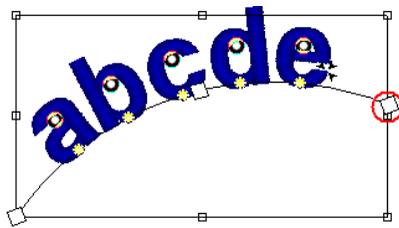
## Changing the Radius of Arced lettering

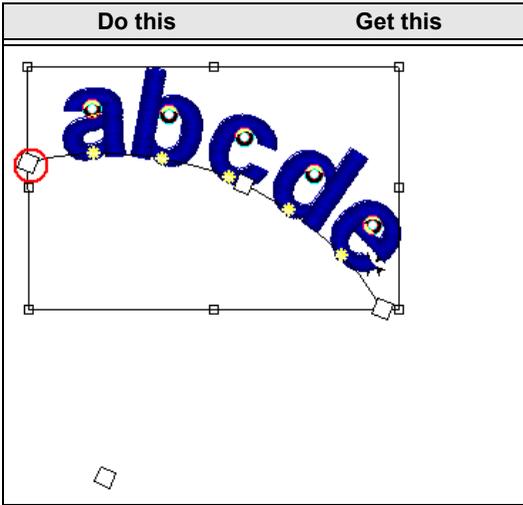
You can easily change the radius of arched lettering without using the Vertex Select tool.

### To change the radius of arced lettering:

- 1 Select the arced lettering.
- 2 Do one or more of the following to change the radius of the lettering:

Do this	Get this
<p>Change the radius of the arc while keeping the center of the arc unchanged.</p>	<p>At the top of the arc, drag the white square bead.</p>
	
<p>Change the radius of the arc while maintaining the vertical position of the lettering.</p>	<p>Below the arc, drag the white square bead at the center.</p>

Do this	Get this
	
<p>Change the radius of the arc while maintaining the left justification of the lettering.</p>	<p>At the right of the arc, drag the white square bead.</p>
	
<p>Change the radius of the arc while maintaining the right justification of the lettering.</p>	<p>At the left of the arc, drag the white square bead.</p>

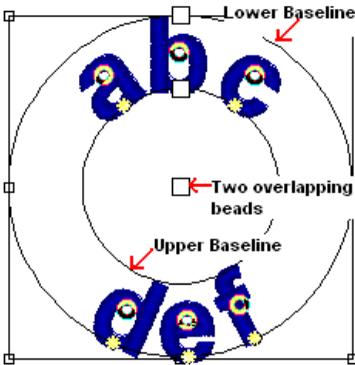


## Changing the Size and Position of Circle Lettering

You can control the height and position of circle lettering with Tajima DG16 by Pulse.

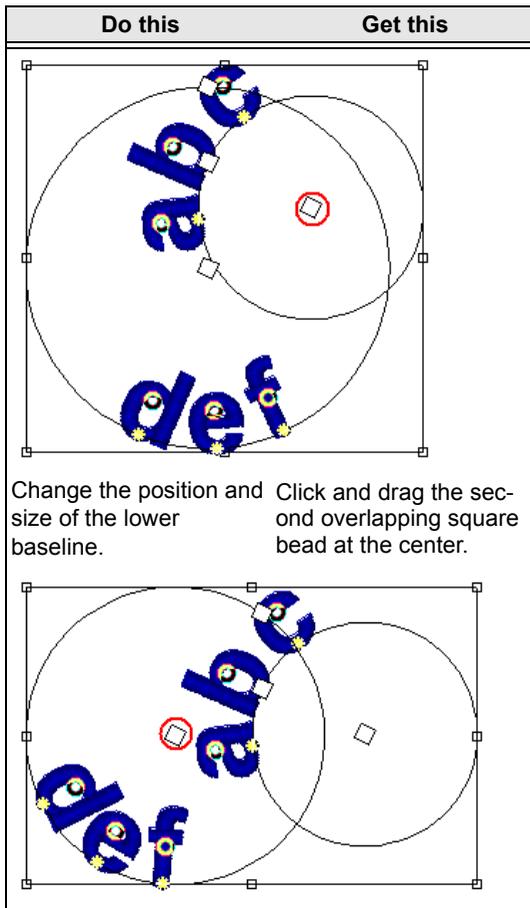
### To change the size and position of circle lettering:

- 1 Select the circle lettering.



- 2 Do one or more of the following to change the size and position of the lettering:

Do this	Get this
Change the height of the lower lettering and not affect the lower baseline.	At the top of the lower baseline, drag the white square bead.
Change the height of the upper lettering and not affect the upper baseline.	At the top of the upper baseline, drag the white square bead.
Change the position and size of the upper baseline.	Click and drag the top overlapping square bead at the center.



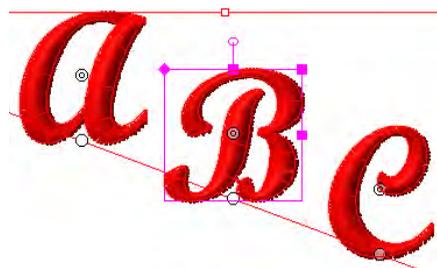
## Rotating Letters Manually

Tajima DG16 by Pulse allows you to easily rotate characters in lettering segments. You no longer have to convert lettering into segments in order to perform character edits.

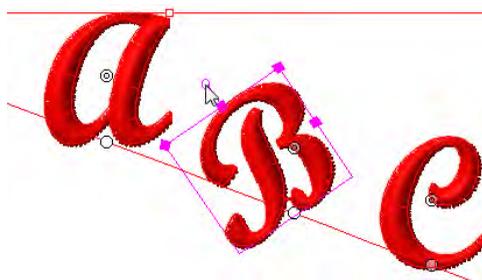
### To rotate lettering manually:

- 1 Create your lettering.
- 2 Select the center bead of the character you want to edit.

*You see an editing box appear around the selected character.*



- 3 To rotate a character, do the following:
  - At the line above the editing box, drag the round bead to the left or right.



- 4 To rotate another character in the lettering segment, select the center bead of the character and use the editing box to rotate.
- 5 When you are finished rotating a character, click its center bead again.

*The letter will be de-selected.*



To undo any changes made using this procedure, right-click the selected text segment, and select "Remove text edits" from the context menu; this will return the letter to its original angle.

## Connection Settings

There are two different groups of Connections settings found on the Properties panel, the "between characters" connection settings, and the "inside characters" connection settings.

As the names imply, the two groups apply in different contexts. The “between characters” settings apply to two or more characters in a single segment, while the “inside characters” settings apply to those characters with disconnected pieces within them (the classic case being the lower-case letter “i”).

To enable inside connections, go to the Text tab on the Properties panel (or go to Text—Connections in the Segment Settings pages). In the Connections inside characters area, check the “Inside trims and Locks” checkbox.

 The Connection Type setting applies only to “between characters” settings. All of the other connection settings described in this section apply to both the “between” and “inside” types.

## Selecting the Connection Type for Lettering

Use the connection type settings to choose how letters should be connected in text segments.

 The Connection Type setting applies only to “between characters” connections.

The connection types are As Digitized, Closest Point, and Furthest Point. These examples show the Closest Point and Furthest Point connection types:



### To select the connection type:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Connection type list, select one of the following connection types:
  - ♦ Select As Digitized to connect lettering using the original digitized order.
  - ♦ Select Closest Point.
  - ♦ Select Furthest Point.

*The lettering will be altered accordingly.*

## Inserting Trims in Lettering Segments

Use the trim settings to insert trims between embroidery lettering that use the As Digitized or Closest Point connection types.

For more information on connection types, see “Selecting the connection type for embroidery lettering”. The trim settings include Always Trim, Never Trim, and Trim (see the follow procedure for the definition of these settings).

It is also possible to insert trims within individual characters. Check the “Inside trim and locks” check box on the Connections area of the Properties panel to activate these settings.



*Placement of trims for Never Trim and Always Trim settings.*

## To insert trims in embroidery lettering:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the connections area, select one of the following types of trims from the Trim Type drop-down list:
  - ♦ **Trim:** A trim will be inserted based on the distance between letters in a lettering segment
  - ♦ **Always Trim:** A trim will always be inserted between letters in the segment.
  - ♦ **Never Trim:** To only trim the first and last letters in a lettering segment, if necessary.
- 4 If required, adjust the Trim threshold distance (default is 3.0 mm). This value sets the minimum distance between letters that will result in a Trim being inserted (Applies only when “Trim” is selected in the Trim Type field in Step 3.)
- 5 Press Enter to apply the changes.

## Adding and Removing Trims within Lettering

Tajima DG16 by Pulse allows you to add or remove trims in lettering segments. You can now manually control trims between individual characters by adding special symbols.



If you open designs with these special symbols in an older version of Tajima DG16 by Pulse, symbols will be treated as normal characters. If the font does not support these symbols, an error message will appear and you will need to delete the symbols from the text entry.

## To add or remove a trim between characters:

- 1 Select the lettering segment.
- 2 Right-click and choose Modify Text from the context menu.  
*You see the Enter Text dialog.*
- 3 In the Enter Text box, do one or more of the following between characters:
  - ♦ To add a trim between characters, enter ^+ on your keyboard.  
For example if you entered *ab^+cde* in the box, a trim would be added between the *b* and the *c* in the segment.
  - ♦ To remove a trim between characters, enter ^- on your keyboard.  
For example if you entered *abc^-de* in the box, a trim would be removed between the *c* and the *d* in the segment.
  - ♦ To remove the trim that follows a lettering segment, enter ^ on your keyboard at the end of the last character.
- 4 Click OK.  
*The lettering segment will be changed accordingly.*

If you enter ^ followed by a character other than + or - then a ^ character will be generated. You can also generate a ^ character by entering ^^.



If the number of jumps exceeds a specified value, the software will automatically generate a trim. In this situation, entering a ^- between characters will have no effect on trim generation.

Only one trim can be added between letters. If you try to add more than one trim (i.e. entering ^^+ on your keyboard), only one trim will be created.

## To add or remove a trim between characters using the Properties bar:

- 1 Select the lettering segment.
- 2 In the Text box, do one or more of the following between characters.

- ♦ To add a trim between characters, enter ^+ on your keyboard.  
For example if you entered *ab^+cde* in the box, a trim would be added between the *b* and the *c* in the segment.
- ♦ To remove a trim between characters, enter ^- on your keyboard.  
For example if you entered *abc^-de* in the box, a trim would be removed between the *c* and the *d* in the segment.
- ♦ To remove the trim that follows a lettering segment, enter ^ on your keyboard at the end of the last character.

**3** Press **ENTER** to apply the changes.

*You see the lettering altered accordingly.*

If you enter ^ followed by a character other than + or - then a ^ character will be generated. You can also generate a ^ character by entering ^^.

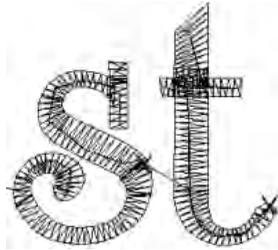
If the number of jumps exceeds a specified value, the software will automatically generate a trim. In this situation, entering a ^- between characters will have no effect on trim generation.

Only one trim can be added between letters. If you try to add more than one trim (i.e. entering ^+^+ on your keyboard), only one trim will be created.



## Setting the Trim Distance for Lettering

The trim setting works with the Closest Point and As Digitized connection setting allowing you to set the trim distance for lettering. By default, this means that when you use the Closest Point or As Digitized connections, the machine trims where there is a space 3 mm. or larger.



### To set the trim distance:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.

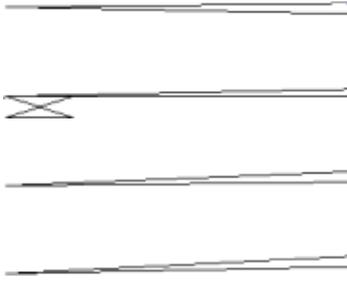


If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Properties panel, in the Connections area, select the Trim threshold field. Enter the distance of jumps between each letter.  
*Trim commands will be inserted automatically, where the distance between letters exceeds the set amount.*

## Setting Lock Stitches for Lettering

You can add lock stitches to your lettering. A lock stitch keeps your stitches from pulling apart by firmly attaching the thread at the location before a long stitch or a trim. However, if a trim is placed between two letters then a lock stitch is inserted before the trim.



*Zoomed-in view of a basic lock stitch*

## Special Notes

- The line (lock stitch type) adds 4 stitches in a straight line. Each stitch will match the specified lock stitch length.
- Lock Stitch Type and Lock Stitch Length settings are only available for TrueType® fonts and for embroidery fonts with a \*.FON file extension. These settings do not apply to fonts whose file names begin with PED008.
- Lock stitches can also be applied to trims created inside individual characters. In the Properties panel, under Connections, check “Inside trim and locks” to activate this property. You will then be able to set the same properties within letters as are set between them (according to the procedure below).

### To set a lock stitch:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Connections area, click in the Locks field. Select when you want lock stitches to occur:
  - ♦ Always
  - ♦ Around Trim
  - ♦ Never
- 4 In the Text lock stitch type list, select the type of lock stitch you want applied to your segment:
  - ♦ Basic
  - ♦ Line
  - ♦ Triangle
  - ♦ Diamond
  - ♦ V-lock
  - ♦ W-lock
  - ♦ Z-lock



If either V-lock, W-lock, or Z-lock is selected, the No. of overlapping stitches setting becomes available. This determines how many overlapping stitches will be sewn to create the V- W- or Z- lock stitch.

- 5 In the Lock Stitch Length box, enter a lock stitch length for the selected lettering segment.

*Your lettering will be altered accordingly.*

## Setting the Lettering Height

Use the Height setting to set the height you want for your embroidery lettering. You can override this height when drawing the box for the text or by dragging the handles.



Lettering at different heights

### To set the lettering height:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Height field, enter the height you want for your lettering.
- 4 Click OK.  
*You see the lettering altered accordingly.*

### To set the lettering height from the Properties bar:

- 1 Select the lettering segment.
- 2 In the Height box, select the height you want for your lettering.
- 3 Press **ENTER** to apply the change.  
*You see the lettering altered accordingly.*



Recalculating the stitches in text can take a lot of computer time, if the lettering is made very large; therefore, a warning notice will appear whenever text is resized larger than 50 inches. You can choose to proceed with the resize or cancel it.

## Setting the Justification

You can change the justification for your lettering.

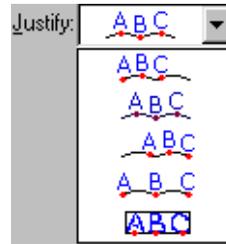
### To change the justification:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Text justify list, select one of the following justification types:



- 4 Click OK.  
*You see the lettering altered accordingly.*

### To change the justification using the Properties bar:

- 1 Select the lettering segment.
- 2 In the Text justify list, select the justification type you want to use.  
*You see the lettering altered accordingly.*

## Automatically shrinking lettering to fit a base line

The Shrink to Fit option is found in the Selection settings. This setting can be used to ensure that the text string will fit on the existing base line. There are three different ways that the compression can be applied; by width only, by height, or by height and width.

**To apply Shrink to Fit to a text segment:**

- 1 Select or create a new text segment.
- 2 On the properties panel, in Selection settings, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the General area of the Text tab, in the Shrink to fit area, select one of the following options:
  - ♦ **None:** No compression will be applied.
  - ♦ **Width Compression:** The width of each letter will be compressed so that the whole string fits along the base line. Height of the lettering remains unaffected.
  - ♦ **Height compression:** The Height of each letter is compressed to make the whole text string fit along the base line; width of letters will be changed proportionally.
  - ♦ **Height and width compression:** Height compression is applied to a maximum percentage of the original height; then, further width compression is applied if required.



The Max. height compression is set in a separate field, adjacent to the “Shrink to fit” field. The default value is 50%, but it can be adjusted up to 100% (no height compression will be applied) or down to 0% (no restriction on the amount of height compression).

- 4 Save the file.

## Adjusting the Spacing of Multiple Lines of Lettering

Use the Line Spacing setting if you create multiple lines of lettering and want to adjust the spacing between each line.

Line Spacing  
at 25%

Line Spacing  
at 50%

Line Spacing  
at 75%

**To adjust the line spacing:**

You can only adjust the line spacing when you first create your lettering.

- 1 In the Lettering toolbar, click the Text  tool.
- 2 In the Text properties panel, enter the amount of spacing you want between the lines the Line Spacing box.
- 3 Click OK.
- 4 Create your multiline lettering segment.  
*You see the lettering altered accordingly.*

## Text Effects Properties

### Adjusting the Space Between Letters

You can put an equal amount of space between letters. Using the Letter Spacing setting, you can increase or decrease the amount of space between letters in your lettering. A positive value increases the space; a negative value decreases the space. Spacing is determined by units called Ems. An Em is equal to 1/20th the letter M's width of the font you are using.



### To adjust the space between letters:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Letter Spacing box, enter the spacing you want between individual letters
- 4 Click OK.

*You see the lettering altered accordingly.*

### To adjust the space between letters using the Properties bar:

- 1 Select the lettering segment.
- 2 In the Spacing box, enter the spacing you want between individual letters.
- 3 Press **ENTER** to apply the change.

*You see the lettering altered accordingly.*

## Adjusting the Width Compression

Use the Width Compression setting to adjust the width of the lettering. A setting over 100% increases the width and a setting under 100% decreases the width.



### To adjust the width compression:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Text width field, enter a percentage value for compression.

*You see the lettering altered accordingly.*

## Creating a Slanted Effect for Embroidery Lettering

Use the Slant setting to create a slanted effect for your lettering. Slant changes the degree value of the slant on your lettering. A negative value slants your lettering to the left; a positive value slants it to the right.



*Negative slant to the left and positive slant to the right*

### To create a slanted effect:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Slant field of the Properties panel, enter the slant degree value you want for your lettering.

## Changing the Monogram Height

If you want a specific size for your monogram lettering, you can enter the monogram height in the Text Effects property page.

### To change the monogram height:

- 1 Select the monogram lettering.
- 2 On the properties panel, click the Text  tab to display the Text properties.

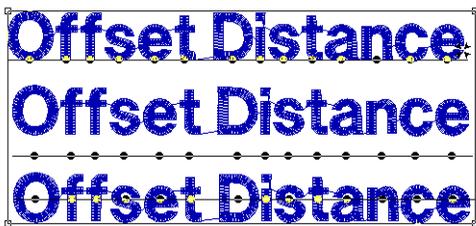


If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Monogram height box, enter the height you want for your monogram.
- 4 Click OK.  
*You see the lettering altered accordingly.*

## Changing the Lettering Offset Distance

You can change the offset distance for lettering. The Offset Distance setting allows you to place the lettering above or below the existing baseline. A negative value places the lettering below the existing baseline and a positive value places the lettering above the existing baseline.



Offset at zero (Normal), Offset distance +6 above the baseline, and -6 below the baseline.

### To change the lettering offset distance:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Baseline area of the Properties panel, enter the desired amount of offset in the Offset distance field.
- 4 Click OK.

## Setting the Base Line Positioning

Tajima DG16 by Pulse allows you to easily change the base line positioning of lettering segments.



You can open and work with lettering segments saved in older design file formats. To save character edits made in the latest version of Tajima DG16 by Pulse, you must save the design file in \*.PXF format.

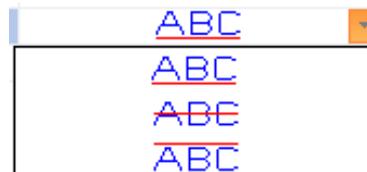
### To change the base line positioning:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Baseline area, select one of the following position types from the Position list:



- 4 Click OK.  
*You see the lettering altered accordingly.*

## Changing the Base Curve Type for Lettering

You can change the default base curves for lettering.



You can open and work with lettering segments saved in older design file formats. To save character edits made in the latest version of Tajima DG16 by Pulse, you must save the design file in \*.PXF format.

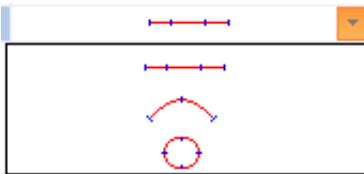
### To change the base curve type:

- 1 Select the lettering segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Base curve type list, select one of the following base curve types:



- 4 Click OK.  
*You see the lettering altered accordingly.*

## Adding a Shadow effect to Text

The new Auto Shadow setting applies an underlay of a second thread color. This allows you to give the text a “three-dimensional” appearance.



When you create the Auto Shadow for the lettering segment, use the settings in the properties box to determine the thread color of the “shadow”, and also the offset in the vertical (y) and horizontal (x) directions.

### To add an Auto Shadow Effect to lettering:

- 1 Select the text segment.
- 2 On the properties panel, click the Text  tab to display the Text properties.



If the properties panel is not visible, select View—Toolbars and Docking Windows—Properties from the menu bar.

- 3 In the Auto Shadow area of the Text Properties box, check the Drop Shadow box.
- 4 Set the offset values for the shadow stitches:
  - ♦ In the X offset field, enter the desired horizontal displacement; a positive value will displace the shadow to the right, a negative value to the left.
  - ♦ In the Y offset field, enter the desired vertical displacement; a positive value will displace the shadow downwards, a negative value upwards.
- 5 In the Shadow Color field, select the thread color the Shadow stitches.



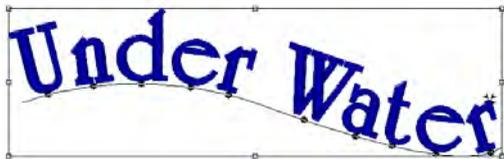
The thread color numbers in this field correspond to the numbers in the Active palette. For more information about selecting the colors in the active palette, see “Editing the Active Palette.”

# Merging Designs with Lettering

Merging a design file with lettering allows you to create many unique designs using stock designs, or existing designs with lettering. You can create your lettering first and merge a design, or vice-versa.

## To merge a design with lettering:

- 1 Create a new design file.  
*You see a new design window.*
- 2 Create the lettering for the design.



- 3 In the Edit toolbar, click the Merge Design



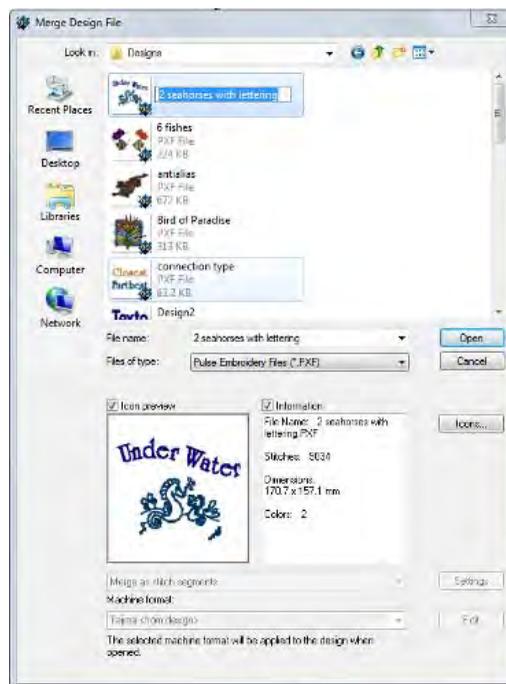
tool.

*You see the Merge Design File dialog box.*

- 4 Select the design file that you want to merge.



Before you place the design, press **CTRL** to insert a color change at the beginning of the merged design.



- 5 If you are opening stitch files, select one of the following options from the list:
  - ♦ Convert stitches to outlines
  - ♦ Open as stitch segments
- 6 Click Settings to make changes to stitch files being opened. Complete any of the following:

Setting	What it does
Maximum ISD	Enter the maximum distance between satin stitch lines (ISD). Values outside of this distance will be treated as non-satin stitches. If values fall within this distance, we will convert it to a satin segment.
Maximum density variation	Enter a percentage value that the variation of satin line distances (ISD) must fall within. Values outside this percentage are treated as non-satin stitches.

Setting	What it does
Run stitch length variation	Enter a percentage value that the variation of run stitch lengths must fall within. Values within this percentage are treated as Run segments.
Maximum stitch length	Enter a maximum stitch length value. Stitch lengths that are lower than or equal to this value will be treated as a Run segment.
Minimum stitches for run	Enter the minimum number of stitches allowed for a Run segment. If the specified number of stitches are found, the stitches will be treated as a Run segment.
Preserve connections as stitch segments	Select to have jumps that connect one segment to another segment remain stationary when segments are moved or regenerated. Use this setting for specific sewing applications where the movement of the embroidery machine between parts of the design is critical.
Auto-detect Connections	When this box is checked, connections between segments in the stitch file (such as color changes and jump stitches) will be recalculated when you modify them; left unchecked, the connections will be preserved as they were when you opened the file.
Ignore zero-length stitches	Select to ignore stitches that have a length of zero when creating Run segments.



For most sewing applications, the “Preserve connections as stitch segment” setting should not be selected. This ensures that jump stitches are updated when design editing occurs.

## 7 Click Open.



These settings are remembered after you close and reopen Tajima DG16 by Pulse.

## 8 Move the cursor to the design workspace.

*The cursor turns into a box with a cross hair.*

## 9 Left-click and place the box where you want the design merged.

*The merged design appears in the design workspace.*

## Setting the Text Sewing Properties

You can change the amount of curvature for bridged lettering (Standard and TrueType®). The curvature is adjusted as a percentage of the font height.

### Setting the text sewing properties:

#### 1 On the Ribbon, select Tools tab—User

Settings  

*You see the User Settings Property pages.*

#### 2 Click the Text property page.

#### 3 In the Default bridge rise box, enter a percentage to change the amount of curvature for bridge baselines.

#### 4 Click OK.

# CHAPTER 11

## Changing Segment Settings

Tajima DG16 by Pulse provides an easy and efficient way to help you change the settings and Settings of your design segments.



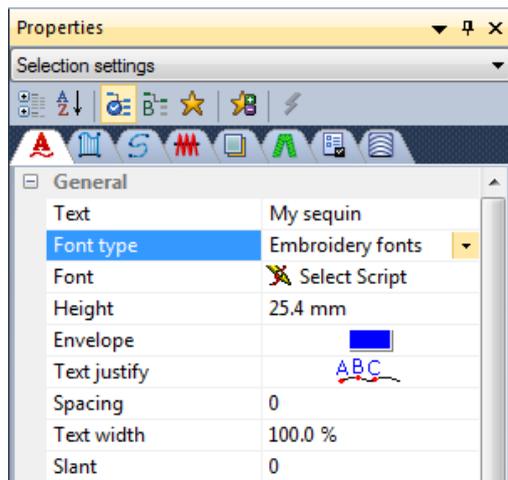
When you make major changes to segment properties, you should be careful of how other segments will be affected.

*Topics covered in this chapter:*

- How to adjust properties from the Segment Settings pages.
- Run stitch properties.
- Satin and Steil properties.
- Setting the properties of the various Fill types.
- Appliqué settings.
- Cross-stitch properties.
- Pull-Compensation, Push-Compensation, and Underlay properties.
- Quality Control properties.
- Machine Command properties.

## The Properties Panel - an Overview

Segment properties are now displayed on single panel, the Properties Panel.



If this panel is not visible, you can display it by selecting View—Toolbars and Docking Windows—Properties.

## Categories of Settings in the Properties Panel

The Properties panel displays two different types of settings: Selection Settings, and Tool Settings. Choose the settings type to display by clicking on the small blue arrow at the top-right of the Properties panel, and then selecting it from the drop-down list.

**Selection Settings:** These are the settings that apply to the embroidery segment that is currently selected.

The information in the selection settings panel is context-dependent; that is, it changes depending on which type of segment is selected. So, for example, if a satin segment

is selected, the fill type, density, type of lock stitches used, and so on will appear in this panel.

**Tool Settings:** Under tool settings, you see the settings that are applicable to the current tool. At first, you will see the default settings for each tool (the ones that come loaded with the software); however, you can adjust some of the settings to suit your own preferences.

## Property Panel Display Options

### All, Basic, and Favorites

If you wish, you can configure which settings are displayed in the Properties Panel. This is

done using the All , Basic , and

Favorites  buttons - you will find these three buttons located along the top of the Properties Panel.

Clicking the All button will display every property related to the current segment or tool; the Basic will display a sub-set of the most commonly-used properties; and the Favorites will show a set of properties that you choose yourself.

### To add a property to the favorites list:

- 1 Display the Properties panel.
- 2 On the property panel (in either All or Basic view), select the property you wish to add to your favorites list.
- 3 Click once on the Add to favorites  tool. *You will see that property appear when you select the Favorites view.*
- 4 Repeat steps 2-3 to add more properties to the favorites view

## Expand, Collapse, and Sort

The settings in the properties panel are grouped into categories. You can choose to display all the settings in all categories by clicking on the "Expand all" button - or you can collapse them back into their groupings by clicking the "Expand all" button again.

Within the list of properties, you can expand or collapse the display of any particular group of settings.

To collapse an expanded group, click the small "negative" (-) sign next to it; to expand a collapsed group, click on the plus sign. You can also choose to display the properties listed in strictly alphabetical order – without grouping – by clicking the "Sort Alphabetically" button, which looks like this: . Click the "Sort Alphabetically" button again to return the Property Panel settings to the grouped arrangement.

## Tabs on the Properties Panel

Along the top of the Segment Properties/Tool Properties panel, you will notice a series of tabs. These tabs organize the properties into separate pages, to make it quick and easy to find the particular property that you want to modify. Which tabs are shown depends on the segment (or tool) that is currently selected - only those that are relevant to the selection will appear.

To display all possible tabs that belong to the current selection, be sure that the All  button is selected in the Property panel



display options bar. If the Basic  or Favorites  display option is selected, you will not see all the tabs. See "Property Panel Display Options".

Each tab is identified by an icon that indicates the types of settings you will see under it. In most cases this icon corresponds exactly to the toolbar icon for the tool that creates that segment type - for example there is a letter

 for text properties, satin tool  for satin properties, and a complex fill icon  for complex fill properties.

Those properties that do not have a tool associated with them, such as underlay , push and pull compensation , and quality control , have their own icons.

For a complete list of these icons, see the table, "Properties Panel Icons", below



If there is any doubt about the type of properties are under any tab in the Properties Panel, there is a very easy way to tell what they are; just "mouse over" the tab (without clicking) and a "tool tip" will be displayed.



## Properties Panel Icons

Tab Icon	Settings Category
	Compensation
	Underlay
	Commands
	Custom Cornering
	Quality Control
	Programmed Pattern
	Carved Pattern
	Connections
	Laser
	Merge

## Adjusting the Settings of a Segment

The general method for adjusting setting of an individual segment is outlined below.

### To change the settings of a segment:

- 1 Open the design.
- 2 To select a segment, do one of the following:
  - ♦ Click on the Select tool in the Path Edit tool bar, and click on the desired segment.
  - ♦ Select View—Toolbars and Docking Windows—Sequence View.  
*You see the Sequence View dialog.*
    - ♦ In the Sequence View panel, browse to the segment you want to change.
    - ♦ Click on it to highlight it.

- 3 In the Properties Panel, choose Selection Settings from the category drop-down list.
- 4 Make the necessary changes to settings in the Properties panel.
- 5 Press Return to apply the changes.

## Repeat a Setting

There is a new feature called the Repeat function. This allows you to repeat a settings change that you have made to one segment to a different segment (or segments).

So, for example, if you change any of the properties (such as density, pull-compensation, etc.) of a segment, you can apply the exact same changes to another segment with the Repeat Function.

### To apply the Repeat command:

- Select a segment, and press Shift+R.

## Satin Properties

### Repeating Satin Stitches

The Repeat Satin setting allows you to repeat satin stitches. When you select the Satin pattern for Satin Path and Steil segments, you can enter 1, 3, 5, 7, 9 repeats or Random. By default, only forward stitches will be repeated and not backward stitches.

However, if you need to have the stitches to be repeated in both directions (for example, if you are sewing in heavy material), check the “Repeat Both Sides” box in the Segment Settings. This will cause both the backwards and forwards stitches to be repeated.

When you repeat satin stitches, you can use the Needle adjust setting to shift the embroidery machine needle slightly and avoid breaking the fabric.

### To repeat Satin stitches:

- 1 Select an existing lettering or satin segment.
- 2 In the segment property panel, select the Satin tab.
- 3 In the Fill Pattern list, select Satin.
- 4 In the Repeat Satin area, select the number of repeats you want to apply.
- 5 (Optional) Check Repeat both sides to repeat the stitches in both directions.
- 6 In the Needle adjust checkbox, enter the distance you want the needle to be displaced in the repeated stitches.
- 7 Press **Enter** to apply the change.  
*You see the lettering altered accordingly.*

## Selecting an Auto Density Style

Auto density style varies the density according to the stitch length to maintain a constant visual density. In general, the feature loosens the density for narrow columns and tightens it for wide columns. The auto density styles include None, Style A, and Style B. Smooth varies the density. Style B loosens narrow columns.

### To select an auto density style:

- 1 Select the Satin segment.
- 2 In the Properties Panel—Selection Settings, select the Satin  tab.
- 3 In the Stitch quality area, select one of the following from the Auto density style list:
  - ◆ None.
  - ◆ Style A to vary the density.
  - ◆ Style B to loosen narrow columns.



Style A is recommended. Style B is only for advanced users.

## Selecting a Fill Pattern for Satin Stitches

You can select a pattern for Satin stitches on the Satin property page. You can choose from any of the standard Fill patterns that are installed with Tajima DG16 by Pulse. Embroidery text lettering uses Satin stitches.

### To select a pattern for satin stitches:

- 1 Select an existing Satin segment.
- 2 Open the Satin property page.
- 3 In the Fill Pattern Type list, select a pattern type.
- 4 In the Pattern list, select a pattern.

## Density Setting for Satin

Satin stitch density is measured in stitches per inch (spi) and embroidery points (pts). For spi, you are determining the number of stitches per inch. For embroidery points, the distance is measured between stitches (each point = 0.1 mm). You adjust density according to the design's size and the fabric you are using. Lighter fabrics and smaller designs require less density. You can also use the auto density styles to change the density according to the adjustment in column size.



*Various densities—tight density to loose density.*

### To set the density:

- 1 Select the Satin segment.
- 2 In the properties panel, Select the Satin tab.

- 3 In the Density box, enter the amount of density in spi or pts that you want for your Satin stitches.
- 4 Press **Enter** to apply the change.  
*You see the lettering altered accordingly.*

## Overriding the Stitch Length

You can adjust the stitch length for Fill patterns using the Override Stitch Length setting on the pages. By selecting this setting, you override the default stitch length for the Satin pattern, allowing you to set the (maximum) stitch length for the fill.

### To adjust the stitch length:

- 1 Select the segment.
- 2 In the Properties Panel, select Selection Settings.  
*You see the Selection settings pages.*
- 3 Click the Satin tab.
- 4 In the Stitch area, check the Override stitch length checkbox.
- 5 In the Overriden stitch length field, enter the desired stitch length.
- 6 Press Enter to complete the change.  
*The segment will be altered accordingly.*

## Random Stitch Length Settings

In certain situations, it is useful to introduce an element of randomness to the stitch lengths of a Satin segment.

In the Stitch settings of the Properties Panel—Selection settings, you will find settings that control the degree of randomness. These settings control two aspects of the randomization:

- The percentage of randomization in a given segment.

- The upper and lower limits on stitch lengths, so that the randomization process will not produce stitches that are too short or excessively long.

### To adjust stitch length Randomness settings:

- 1 Select a Satin segment.
- 2 Open the Selection Settings panel, and select the Satin tab.
- 3 In the Stitch area of the Satin tab, do the following.
  - ♦ In the Randomness field, enter the percent Randomness to be applied; the larger the value, the greater percentage of stitches will vary from the average stitch length.
  - ♦ Enter a Fill Random Range setting: this value maximum value (in mm) for the randomized stitches.
  - ♦ Enter a value for the Min. random range: this sets the shortest length (in mm) for the randomized stitches.



To set random stitch lengths using the Randomness setting alone, without considering the Fill random range or the Min. random range values, check the **Disable random range limits** check box.

- 4 Press G to regenerate stitches.

## Extend Stitches at Corners and Ends

There is a new option available that allows digitizers the option to extend the length of the stitches in a satin column at corners and ends. In certain situations, this can help to make corners and ends look sharp and crisp.

### To apply extended corners and/or ends:

- 1 Select a satin segment.
- 2 In the properties panel, select the Satin tab.

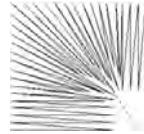
- 3 Under stitch quality, check the boxes to apply extended stitches either to corners or ends (or both) as required.
- 4 Adjust the following setting in the Satin settings, as applicable:
  - ◆ End Extension Length: Determines the amount of extra length that is added to a stitch when extended ends is applied.
  - ◆ End Extension type: Choose the side of the segment that the end extension will apply to; the A side, B side, or Both sides.
  - ◆ Corner Extension Length: Determines the amount of extra length that is added to a stitch when extended corners is applied.
  - ◆ Corner Extension Min. angle /Max. angle: These two settings determine the limits on what is considered a corner, for the purpose of adding extended stitches. Extended stitches will be added when the angle of the corner is greater than the Min. Angle, but less than the Max. Angle.



## Short Stitch Style

Short stitch style controls turning stitches when they become too dense and determines how to shorten them, especially when consecutive short stitches are required.

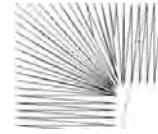
The short stitch styles include None, Smooth, Aggressive, Regular and Standard. Standard is recommended because instead of using a percentage value, it uses a target density.



Smooth



Aggressive



Standard

There is also a Custom style, in which you can define your own short stitch settings.

### To select a short stitch style:

- 1 Select the Satin segment.
- 2 Open the Satin property page.
- 3 In the Short Stitch Style list, select one of the four styles:



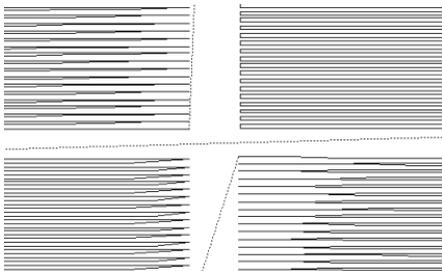
Standard is the recommended style for short stitches.

- ◆ Select **None** and the stitches will not be shortened.
- ◆ Select **Smooth**. Smooth shortens the stitches so the consecutive short stitches become increasingly shortened.
- ◆ Select **Aggressive**. Aggressive shortens the stitches so the consecutive short stitches become increasingly longer.
- ◆ Select **Standard**. This setting automatically calculates the length and number of short stitches automatically, based on the following settings:
  - ◆ The minimum spacing between stitches for which short stitches will be applied.
  - ◆ The Target Spacing (desired spacing between adjacent stitches)
  - ◆ A minimum length for the short stitches.

- ♦ The Parallel threshold, a measure of how close to parallel the stitches must be before short stitching will be applied (zero means exactly parallel, higher numbers allow slightly non-parallel stitches to be considered parallel).
  - ♦ Select Regular. Short stitch length is determined automatically in such a way as to improve short stitches in corners.
  - ♦ Select Custom. You determine the number of offsets (up to five), and the length of each short stitch. The lengths can be entered either as an absolute (i.e. number of mm or inches shortened), or as a percentage of the length of a normal stitch in the satin column.
- 4 Press **Enter** to apply the change.  
*You see the lettering altered accordingly.*

## Selecting the Connection End for Satin stitches

You can select the connection end type you want for your Satin stitches. Choose from Sharp, Square, Chiseled, or ZigZag.



*Sharp, Square, Chiseled, and ZigZag connection ends*

### To set the connection end:

- 1 Select the lettering or Satin segment.
- 2 In the properties panel, expand the satin category.
- 3 Open the Satin tab.

- 4 In the Connection End list, select one of the following connection end types:
  - ♦ Sharp
  - ♦ Square
  - ♦ Chiseled
  - ♦ ZigZag

 If you use the Chiseled connection end type, you must set the Chisel distance. Chisel distance specifies the minimum distance to place the stitches into the column to achieve a sharp edge effect

- 5 Press **Enter** to apply the change.

## E-stitch Connection End Setting

The E-stitch connection end type is a special connection end that can be applied to satin column (it also works for complex fills, and Steil segments). The E-stitch setting creates a shape in which the stitches that make up the satin, fill, or Steil, are connected only on one side, giving the segment an 'open' look.

The segment (whether it be column, fill, or Steil) is composed of a "closed" side, running along one edge of the outline, and a series of parallel stitches running to the other, "open," side and back again.

### To apply the E-stitch connection end:

- 1 Select the segment with the Select tool.
- 2 Open the Properties panel (Alt + Enter).
- 3 Under Satin—Connection end, choose "E-stitch" from the drop-down list.
- 4 Under Satin—E-stitch, choose normal or bean stitches.

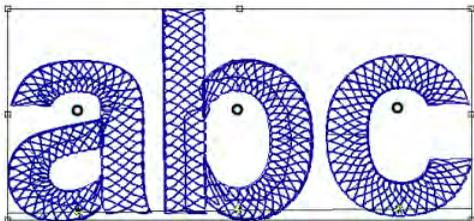
 If you choose Bean, you can specify the number of times the bean stitch will be repeated in the Return stitch repeat field.

## Applying a Swirl Effects to a Satin Path Segment

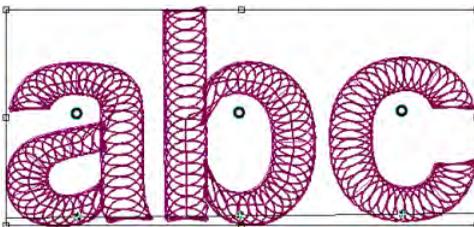
You can now create a swirl effect with Satin Path segments. You can create a Dual Swirl or Swirl effect to lettering or Satin segments.

### To apply satin swirl effects:

- 1 Select a text or satin segment.
- 2 In the Properties panel, select the Satin tab.
- 3 In the Fill Pattern Type list, select the pattern type: Dual Swirl or Swirl.



Above, Dual Swirl effect; below, Swirl Effect



- 4 Press **Enter** to apply the change.  
*You see the lettering or Satin segment altered accordingly.*

## Satin Swirl Segment Settings

You can adjust Satin swirl settings easily in Tajima DG16 by Pulse. These settings are enabled only for Satin swirl lettering and Satin segments.

### To adjust Satin swirl segment settings:

- 1 Create your lettering, select an existing lettering or Satin segment.
- 2 In the Properties panel, select the Satin tab.
- 3 To adjust Satin swirl settings, change one or more of the following:
  - ♦ In the Swirl Density box, enter a density value for the swirls. This setting should be adjusted according to the size of the shape. (The default value is 40.0 pt.)
  - ♦ Select Auto Swirl Compression to enable this setting and allow Swirl Compression to be handled automatically by Tajima DG16 by Pulse. Only when this setting is disabled (unselected) will the Swirl Compression box become active.
  - ♦ In the Swirl Compression box, enter a value to control the compression of swirls. The allowed values are from 0 to 100.
- 4 Press **Enter** to apply the change.  
*The lettering or Satin segment will be altered accordingly.*

## Run Stitch Properties

### Run Stitch Effects

In the Run property page, you can select a Stitch Length Profile that will vary the length of the Run stitch throughout the segment. Therefore, normal Run or Programmed Run stitch segments can have varied stitch lengths throughout one segment.

You can use Stitch Length Profile settings to create special effects in your embroidery designs. You use the Stitch Length Profile settings to vary the stitch length and minimum stitch length values to achieve a special look.

The stitch length and minimum stitch length values are displayed and can be changed in the Segment Settings pages.

Stitch Length Profile setting	What it does
Linear Increasing	Gradually increases the stitch length in a selected segment from the Minimum stitch length to the Stitch length value. 
Linear Decreasing	Gradually decreases the stitch length in a selected segment from the Stitch length to the Minimum stitch length value. 
Convex	Starts gradually increasing the stitch length in a selected segment from the Minimum stitch length to the Stitch length value. Then, begins gradually decreasing the stitch length from the default stitch length to the Minimum value at the center of the selected segment. 
Concave	Starts gradually decreasing the stitch length in a selected segment from the Stitch length to the Minimum stitch length value. Then, begins gradually increasing the stitch length from the Minimum stitch length to the Stitch length value at the center of the selected segment. 

### To apply stitch effects to Runs:

- 1 Select the New  tool.  
*You see a new design window.*
- 2 From the Digitizing toolbar, select the Run  tool.

- 3 Create a Run segment.
- 4 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 5 Click the Run property page.
- 6 In the Stitch Length Profile box, select how to vary your Run stitches:

- ♦ **None:** The length of the Run stitches will be consistent throughout the path. The Run stitch will not have a varying stitch length.
- ♦ **Liner Increasing:** The stitch length will start at the value defined in the Min. Stitch Length box and will increase to the value defined by the Stitch Length box on the Run property page.
- ♦ **Liner Decreasing:** The stitch length will start at the value defined in the Stitch Length box and will decrease to the value defined by the Min. Stitch Length box on the Run property page.

The Chord Gap setting is ignored when using Stitch Length Profile.



When using the Stitch Length Profile setting with Programmed Run stitches, the size of the program pattern is also adjusted according to the Stitch Length.

- ♦ **Convex:** The Convex setting will produce a Run stitch where the stitch length is longest at the middle of the path and shortest at the ends.
  - ♦ **Concave:** The Concave setting will produce a Run stitch where the stitch length is shortest at the middle of the path and longest at the ends.
- 7 In the Min. Stitch Length box, enter the minimum stitch length required for the Run stitches you have punched.
  - 8 Press **Enter** to apply the change.

## Choosing a style for Run Stitches

You can choose a style for Run stitches to create unique stitch effects for detailing or borders.

### To choose a style:

- 1 Select the Run segment.
- 2 Open the Selection Settings panel.
- 3 Click the Run properties tab.
- 4 In the Run Style list, select one of the following styles:
  - ♦ Run
  - ♦ Two-ply
  - ♦ Bean
  - ♦ Half Bean
  - ♦ Programmed
  - ♦ Needle Up



For more information on the various stitch types referred to here, see "Common Embroidery stitch types".

*You see your segment altered accordingly.*

## Programmed Pattern Arrange Setting

There are settings for programmed run stitch segments that allow you to create new programmed run patterns by changing the arrangement of existing patterns.

You can choose to flip individual instances of a programmed run stitch horizontally (that is, along an axis perpendicular to the direction of the run), or vertically (that is, across an axis parallel to the direction of the run).

These settings determine the arrangement in the horizontal direction (H-arrange) and the vertical direction (V-arrange). The default setting for Programmed Pattern arrange is "None" - if both are set to "None" the programmed pat-

tern is in the original state. The "Flip" setting reverses the orientation of all instances of a programmed pattern in a run; "Alter" will flip only every alternate programmed stitch in the pattern; see the following table for examples (with the original pattern in the top row).

Arrange Setting		Programmed Pattern
H-Arrange	V-Arrange	
None	None	
Flip	None	
None	Flip	
None	Alter	



Note that these are examples involve using only vertical arrangement or horizontal arrangement; more patterns can be created by combining the two.

## Adjusting the Programmed Pattern Size

The Pattern Size setting changes the size of individual repeated units in a programmed run segment. When you adjust the Pattern size setting, it sets the length of each unit in the pattern (that is, the dimension that runs parallel to the segment's outline), and the width of each unit is then scaled accordingly.

The pattern size setting is found on the Programmed Pattern  tab of the Segment settings panel.



Note that changing the pattern size does not affect the segment's stitch length, which is set independently, on the Run tab.

## Programmed Pattern Angle

The Pattern Angle setting allow the digitizer to vary the angle that the individual units in the pattern make with the Run path. The default value is 0 degrees - that is, an angle of 0 will give the pattern as originally digitized.

To apply an angle to a programmed pattern, select a Programmed Run segment, open the Programmed Pattern  tab of the Segment settings panel, and type the angle into the Pattern Angle field; you can apply an angle in the range of -180 to +180 degrees.



The Pattern Angle setting can only be applied to programmed run segments.

## Allow Free Start/Stop Placement

Allow Free Start/Stop Placement is a setting that is only applicable in the Programmed Run style. By default, Programmed Run segments (unlike other Run styles) have fixed Start/Stop points: that is, the stitches will be generated such that they run from the first digitized point to the last, and the Start/Stop points cannot be moved.

However, there are some situations that might require you to change the Start/Stop locations of a Programmed Run. To allow this, a new setting has been created in the Segment Settings pages. To enable this setting, select the Programmed run setting, open the Segment Settings Panel, go to Run—Stitch, and check the “Allow Free Start/Stop bead placement” box.

## Dropping Run Stitches

Use Drop Run Stitch to ensure the proper placement of Run stitches. Choose from At Anchor, None, and Chord Gap. At Anchor drops the Run stitches and penetrates at the anchor point at the top portion of a curve. None forces the Run stitches to follow the Stitch Length setting. Chord Gap places the stitches to fit curves smoothly by shortening the stitches at the top portion of a curve. It works in conjunction with the Maximum Chord Gap Distance setting and the Minimum Stitch Length setting.

### To place Run stitches:

- 1 Select the Run segment.
- 2 In the Segment Properties Panel, select the Run tab.
- 3 In the Drop Run Stitch list, select one of these options:
  - ♦ Select **At Anchor** to place Run stitches at the anchor points.
  - ♦ Select **None** to place Run stitches smoothly along the segment.
  - ♦ Select **Chord Gap** to place Run stitches to fit a curve.
  - ♦ If you select Chord Gap, you need to define the following:
    - ♦ In the **Max. Chord Gap distance** box, enter the chord gap distance to set the acceptable gap for the stitching at the top portion of a curve.
    - ♦ In the **Min. Stitch Length** box, enter the minimum stitch length to set the limit for the length that the Run stitches can be shortened to fit the top portion of a curve.

*You see your segment altered accordingly.*

## Setting the Stitch Length for Run Stitches

You can control the length for the Run stitches using the Stitch Length setting. You set the stitch length in the Run property page.

### To change the stitch length:

- 1 Select the Run segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Run property page.
- 4 In the Stitch Length box, enter the stitch length.

## Repeating Run Stitches

You can repeat Run stitches to create thicker Run stitches to create detailing and borders for designs. If you repeat a Run stitch twice, the stitches sew the entire length of the segment and then back to the start of the segment. If you repeat a Run stitch 3 times, each stitch is sewn three times before moving to the next stitch in the segment to create stitching similar to Bean stitches.

The Repeat Offset and Repeat Swing settings shift the penetration points of repeated run stitches to avoid placing stitches with the same penetration point.

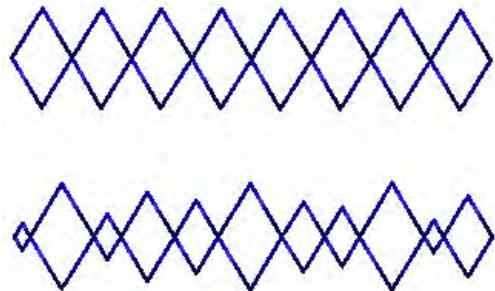
### To repeat Run stitches:

- 1 Select the Run segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Run property page.
- 4 In the Run Repeat box, enter the number of repeats you want for the stitches.

- 5 In the Repeat Offset box, enter the offset percentage you want to shift the penetration points of the repeated stitches. For example, 50% places the penetration points of the repeats half-way between the penetration points of the first row.
- 6 In the Repeat Swing box, enter number of points you want to shift the repeated stitches. For example, 0.5 pts places the repeated penetration points 0.5 pts away from the first row of penetration points. With 3 or more repeats, the swing penetration points will be on both sides of the first row of penetration points.
- 7 Press **Enter** to apply the change.

## Random Stitch Length for Run Segments

**Random Range Setting:** Using the Stitch length Random range setting (located under the Run tab of the Properties panel), it is possible to 'randomize' the length of the stitches in any kind Run segment.



*A programmed run segment, before and after applying a random range setting (in this case, the random range has been exaggerated for the sake of clarity).*

To insert a random element in the Run stitch length, enter a value (in mm.) into the Stitch length random range field. When stitches are regenerated, their length will vary randomly

within the specified range; this range is defined by the original stitch length, plus or minus the Random range value.

**Stitch Length Random Offset:** You can also set an offset value for the Stitch length random range. This value (which is given in terms of a percentage) has the effect of skewing the distribution of stitch lengths up or down.

By default, the offset is set to 50%; at this value, the length of the run stitches will vary evenly around the basic stitch length – approximately half will be above the original stitch length, and approximately half below it.

You can adjust the Stitch Length Random Offset setting to skew the range of random stitches up or down. Entering a value under 50%, will cause more of the stitches to fall below the length of the original stitch length, while a value greater than 50% will cause more of them to be above the original Run Stitch length.

## Variable Stitch Length for Run Segments

The Variable Stitch Length tool allows you to create run segments which that have a stitch length that varies along the length of the segment.

To vary the stitch length, use a special tool, the Stitch Length  tool. Use the Stitch Length tool to place beads (these will appear as purple squares) along the line, and then set the density changes that you want to have occur at those points.

Once you set the change in stitch length at each Stitch Length bead, you can set a Graduate profile for the segment. This property determines the way in which the density changes.

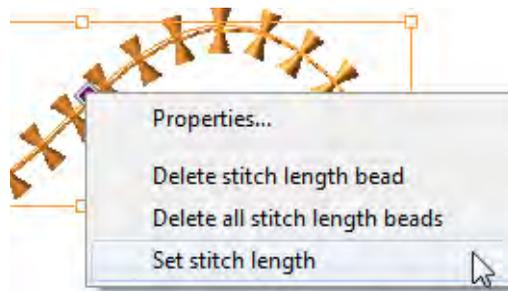
### To add variable density to a Run stitch segment:

- 1 Using the Select tool, select the Run stitch segment.
- 2 From the Path Edit toolbar, select the Stitch Length  tool.
- 3 Place the mouse over the segment and right-click.  
*You see a context menu.*
- 4 Choose "Add stitch length bead" from the context menu.  
*A square bead is placed in the selected position. You can change the position of the bead by clicking and dragging it with the mouse.*

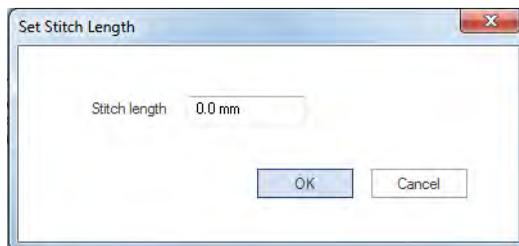


You can also right-click to delete the selected bead; or, you can also choose to delete all stitch length beads in the segment.

- 5 Right-click on the bead, and choose "Set stitch length" from the context menu.



*You see the Set stitch length dialog.*



- Enter the value of the change in stitch length that you want to applied at that point in the Run stitch.

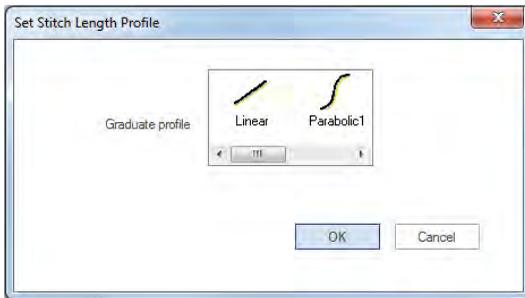
The value entered will be added to, or subtracted from, the default run stitch length, depending on whether a positive or negative value is entered.

- To set the stitch length profile, right-click on the run segment (important – **not** on one of the beads).

*You see a context menu.*

- From the context menu, select "Set stitch length profile."

*You will see the following dialog:*



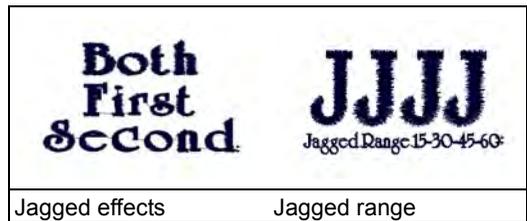
- Choose one of the following Stitch length profiles:
  - ♦ **Linear:** The change in stitch length is uniform along the Run segment.
  - ♦ **Parabolic1** or **Parabolic2:** Stitch length changes at different rates, depending on the part of the segment.
  - ♦ **Step:** The Stitch length change occurs all at once, at the bead.
- Press G to regenerate the stitches.



## Satin Effect Properties

### Applying a Jagged Effect

You can apply jagged edges to your stitches. You need to choose a minimum and maximum range for the jagged edge. The range can be a positive or a negative value. If you set a negative value, the jagged edge is placed on the inside of the column. If you set a positive value, the jagged edge is placed on the outside of the column.



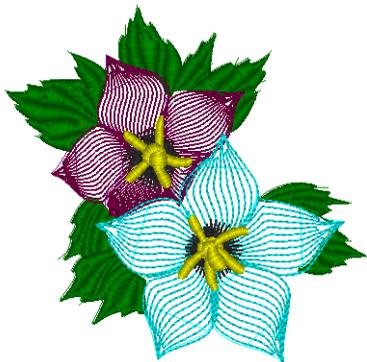
#### To apply a jagged effect:

- Select the Satin Path segment, and open the Selection Settings panel.  
*You see the Selection settings pages.*
- Click the Satin Path/Column Effects property page.
- In the Jagged list, select one of the following jagged effect types:
  - ♦ None.
  - ♦ Both to make both sides jagged.
  - ♦ First to make the first side jagged.
  - ♦ Second to make the second side jagged.
- In the Jag Randomness box, enter the percentage of jaggedness you want. When you enter larger percentages of jag randomness, the segment edges become more jagged. When you enter smaller percentages of jag randomness, the segment edges become less jagged.

- 5 In the Min. Jagged Range box, enter one of the following:
  - ♦ A negative value to place the jagged edge on the inside of the column.
  - ♦ A positive value to place the jagged edge on the outside of the column.
- 6 In the Max. Jagged Range box, enter one of the following:
  - ♦ A negative value to place the jagged edge on the inside of the column.
  - ♦ A positive value to place the jagged edge on the outside of the column.
- 7 Press **Enter** to apply the change.

## Creating Contour Stitches for Satin Stitch Types

You can create Contour stitches instead of Satin stitches for Satin Path segments. Contour stitches follow the contour of the shape, instead of stitching side to side. Contour stitches are useful for special stitching effects such as leaves. The Contour setting for Satin stitch types is found on the Satin Path/Column Effects property page. It works with the Minimum Stitch Length setting. If the contour stitches are too narrow, use the Short Stitch settings to improve the stitch quality.



*Contour Stitch Segment with spacing at 25pts.*

### To create Contour stitches:

- 1 Select the Satin Path segment.
- 2 In the Properties panel, select the Satin Path/Column Effects tab.
- 3 Select Contour Stitch.
- 4 Do any of the following steps to make adjustments for the design:
  - ♦ To adjust the space between the Contour stitches, enter the amount in the Contour Stitch Spacing box.
  - ♦ To adjust the density based on the Contour Stitch spacing, choose Maximal spacing, Minimal Spacing, or Average Spacing from the Density Type list.
  - ♦ To set the limit for the length that the stitches can be shortened to fit the top portion of a curve, enter the amount in the Min. Stitch Length box.
  - ♦ To set a short stitch setting, choose Sharp End or Squared End from the End Type list.
  - ♦ To adjust the percentage of the short stitch, enter the value in the Percent box.

## Creating Density Effects

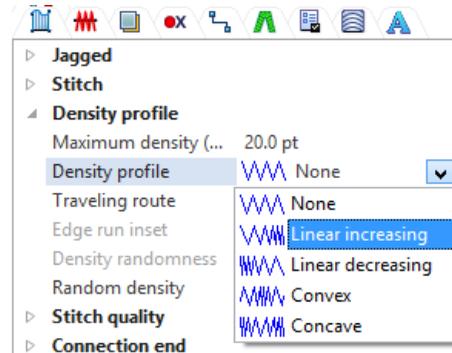
You can use density effects to create special effects in your embroidery designs. You use the Density Profile settings to vary the density between a normal and maximum density value to achieve a special look. The normal density value is displayed on the title bar. The maximum density value is displayed and can be changed under the appropriate tab of the Property panel.

Density Profile	What it does
Linear Increasing	Gradually increases the density in a selected segment from the Normal density value to the Maximum density value.
	
Linear Decreasing	Gradually decreases the density in a selected segment from the Maximum density value to the Normal density value.
	
Convex	Starts gradually increasing the density in a selected segment from the Normal density value to the Maximum density value. Then, begins gradually decreasing the density from the Maximum density value to the Normal density value at the center of the selected segment.
	
Concave	Starts gradually decreasing the density in a selected segment from the Maximum density value to the Normal density value. Then, begins gradually increasing the density from the Normal density value to the Maximum density value at the center of the selected segment.
	

**To create density effects:**

- 1 Create a Satin path segment and select it.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings.*
- 3 Click the Satin  tab on the Properties page.

- 4 In the Density Profile area of the panel, select a density profile type.



- 5 Press **Enter** to apply the change.  
*You see your segment altered accordingly.*
- 6 To achieve the desired look, adjust the settings as needed.

**Variable Density for Satin Segments**

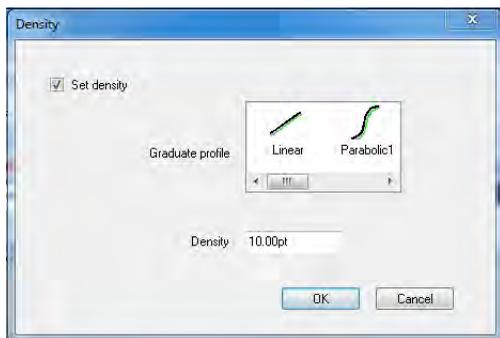
The Variable Density setting allows you to generate Satins with a density that changes over the length of the segment. To vary the density, you set a Density change (which determines the amount of density varies from the segment's original density) and a Graduate Profile (to determine the way in which the density changes).

The variable density is set at the angle lines of the segment; if desired you can change variations in the density at every angle line.

**To add variable density to a satin segment:**

- 1 In a Satin or fill segment, select the Angle Line tool.

- 2 Hover over one of the end points in the Angle Line in the segment that you wish to change, and right-click; choose Set Density from the context menu. This will open up the Set Density dialog.



- 3 Set the density profile: choose from one of the pre-set density profiles. These determine the manner in which the density changes.
  - Linear: The density change is uniform.
  - Parabolic1 and Parabolic2: Density changes at different rates, depending on the part of the segment.
  - Step1 and Step2: The density change occurs all at once, at the angle line.
- 4 Set the density change: in the desired field of the dialog, enter amount of difference you want to apply between the start and finish of your density gradient.



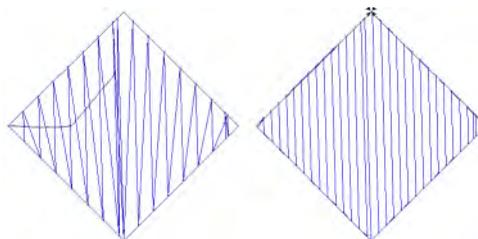
Note that the value you type here can be positive or a negative number, depending on whether you want to have an increasing or decreasing density.

- 5 Press **G** to regenerate the segment.

## Traveling Run Stitches

Hiding traveling run stitches for satin stitch types sets the position of the traveling Run stitches placed underneath the design's

stitches. You can choose between Along Middle and Along Edge. Use Along Middle for stitches with a heavy density because the traveling Run stitches will not be visible. Use Along Edge for stitches with a light density to hide the traveling Run stitches.



*Traveling Run stitches: Along Middle and Along Edge*

### To adjust Traveling Run stitches:

- 1 Select the Satin Path segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Satin Path/Column Effects property page.
- 4 In the Traveling Route list, select Along Middle or Along Edge.
- 5 (Optional) If "Along Edge" is selected in the Traveling Route field, you may input an inset for the traveling run.
- 6 Press **Enter** to apply the change.  
*You see your segment altered accordingly.*

## Repeat Satin Setting for Complex fills

If the Complex Fill Segment has the Fill Type property set to "Satin," you may add repeat satin stitches to it. When you select the Satin pattern for Satin Path and Steil segments, you can enter 1, 3, 5, 7, 9 repeats or Random.

By default, only forward stitches will be repeated and not backward stitches; however, if you need to have the stitches to be repeated in **both** directions (for example, if you are sewing in heavy material), check the “Repeat Both Sides” box in the Selection settings. This will cause **both** the backwards and forwards stitches to be repeated.

When you repeat satin stitches, you can use the needle adjust setting to shift the embroidery machine needle slightly and avoid breaking the fabric.

### To repeat stitches in a Satin fill segment:

- 1 Select an existing lettering or Satin segment.
- 2 In the segment property panel, select the Satin tab.
- 3 In the Pattern list, select Satin.
- 4 In the Repeat Satin list, select the number of repeats.
- 5 In the Needle adjust box, enter the amount you want the needle to shift when repeating satin stitches.

## Random Density for Satins

The settings for Satin segments include a Random density setting.

When this setting is enabled, the density of the selected Satin column will vary randomly, to produce a more “homespun” look.

If Random density is applied, the density will vary within a range (+/-) compared to the original density of the segment. This range is expressed as a percentage, with 50% being the default; however, you can change this to apply any value between 1-99%.

### To enable Random Density:

- 1 Select a satin segment.

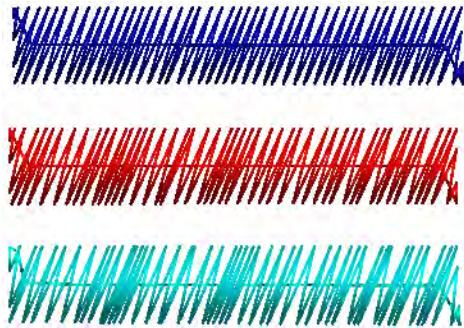
### 2 Do one of the following:

- ♦ In the Properties Panel, select the Satin tab, and expand the **Density Profile** area of the panel.
- ♦ Open the Properties pages, and go to Segment settings—Density Profile.

### 3 Check the Random Density checkbox.

### 4 In the Density randomness field, increase or decrease the percentage randomness, as required.

*The satin column will automatically be regenerated to reflect the degree of randomness that has been applied.*



*Three satin segments with varying degrees of random density; from top, 25%, 50%, and 75%.*

## Steil Properties

### Angle Setting for Steil Stitches

You can change the angle of Steil stitches. If Steil stitches are angled, they cover more area with fewer stitches allowing you to decrease stitch count. The Steil angle setting also works with Corner Style B, allowing you to create mitered corners with angled Steil stitches.

### To set the angle for Steil stitches:

- 1 Select the Steil segment.

- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Steil property page.
- 4 In the Steil Angle box, enter the angle.
- 5 Press **Enter** to apply the change.

## Setting the Steil Segment width

You can set the width of Steil stitches.

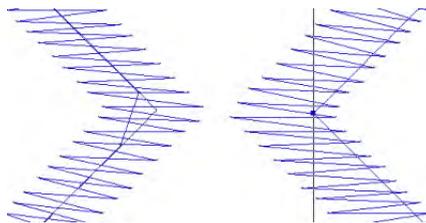
### To set the width for Steil stitches:

- 1 Select the Steil segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Steil property page.
- 4 In the Steil Width box, enter the width.
- 5 Select Scale Width to force the width of a steil segment to scale. This setting is useful when resizing a design.
- 6 Press **Enter** to apply the change.

## Steil Inset

You can shift Steil stitches with the Inset Percentage setting. For example, you can use Inset Percentage to move a Steil border closer to, or further from, a fill segment. Moving the border closer allows you to compensate for any gaps that may appear between the border and the fill. Moving the border further out allows you to avoid any thick and “bunched up” stitches that may happen if the border is covering too much of the fill segment.

You can also use Inset Percentage for adjusting the borders of manual appliqués.



*Inset Percentage 50% and Inset Percentage 85%*

### To inset Steil stitches:

- 1 Select the Steil segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Steil property page.
- 4 In the Inset Percentage box, enter the width percentage.
- 5 Press **Enter** to apply the change.  
*Your steil segment is altered accordingly.*

## Steil Connection Method

For steil segments that have a Steil angle setting applied to them, there is now an option to change the length of the connecting stitches. These connecting stitches can be made long or short, depending on preference.

- If the Short setting is applied, the connection stitches will run between the nearest points of adjacent Steil stitches.
- If the Long setting is applied, the connection stitches will run between the farthest points of adjacent Steil stitches.

### To change the connection method for Steil segments:

- 1 Select a Steil segment.
- 2 Select the Steil tab of the properties panel.
- 3 In the General area of the Steil properties, in the Connection Method field, select long or short.  
*The steil segment will altered accordingly.*



Two Steil segments, each having the identical stitch length and Steil angle. The short connection method has been applied in the top segment, and long connection method to the bottom one.

## Steil Repeats Setting

As with Satin columns, you can add repeat stitches to a Steil segment. Repeats are set in the Satin tab of the segment properties. Repeat stitches create a new stitch which exactly overlaps the previously-sewn stitch a set number of times. Choose 1, 3, 5, 7, or 9 repeats.

When the Repeat Satin setting is applied to a Steil segment, the repeats stitches can either be applied to the Steil stitches or the connecting stitches. In the "Repeat on" field of the Steil settings, you can choose to switch the repeats from the Steil stitches to the connection stitches, or vice-versa.

## Applying a Jagged Effect to Steil Stitches

When applying jagged edges to your steil stitches, you need to choose a minimum and maximum range for the jagged edge.

The range can be a positive or a negative value. If you set a negative value, the jagged edge is placed on the inside of the column. If you set a positive value, the jagged edge is placed on the outside of the column.

### To apply a jagged effect:

- 1 Select the Steil segment.

- 2 In the Properties panel, click the Satin Path/Column Effects tab.
- 3 In the Jagged list, select one of the following jagged effect types:
  - ♦ None.
  - ♦ Both to make both sides of the stitches jagged.
  - ♦ First to make the first side jagged.
  - ♦ Second to make the second side of the stitches jagged.
- 4 In the Jag Randomness box, enter the percentage of jaggedness you want. When you enter larger percent randomness, the segment edges become more jagged. When you enter smaller percentages of jag randomness, the segment edges become less jagged.
- 5 In the Min. Jagged Range box, enter one of the following:
  - ♦ A negative value to place the jagged edge on the inside of the column.
  - ♦ A positive value to place the jagged edge on the outside of the column.
- 6 In the Max. Jagged Range box, enter one of the following:
  - ♦ A negative value to place the jagged edge on the inside of the column.
  - ♦ A positive value to place the jagged edge on the outside of the column.
- 7 Press **Enter** to apply the changes.  
*You see your segment altered accordingly.*

## Steil Corner Properties

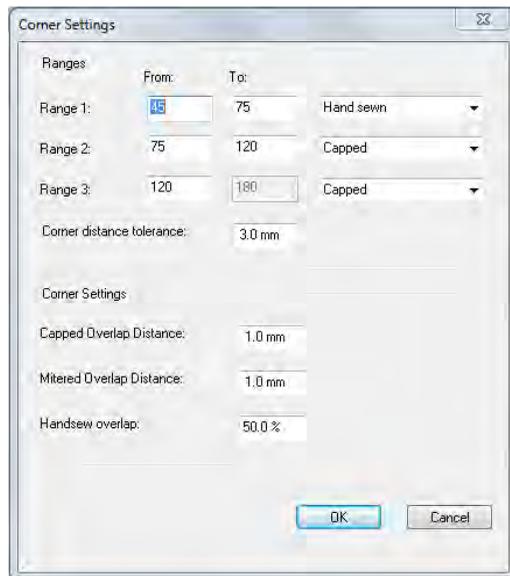
You can apply a corner style to Steil stitches to adjust the corner stitches for problematic corners.

Auto Corner Style	What it does
None (default)	No style is applied.

Auto Corner Style	What it does
Standard	Finds all corner points and ensures that a stitch is placed exactly at that point.
Auto	Functions like the Standard style but it also adjusts the angle lines for corner points if necessary. Auto applies custom cornering to the Steil segment.
Custom	Custom applies custom cornering to the Steil segment. Generates corner stitches that look like they have been sewn by hand or sewing machine.

### To use Auto Corner Styles:

- 1 Select the Steil segment.
- 2 Press Alt+Enter to open the Properties panel.  
*You see the Selection settings pages.*
- 3 On the Segment settings page, select Steil—Corners.
- 4 From the Auto Corner Style list, select a corner style:
  - ◆ None
  - ◆ Standard
  - ◆ Auto
  - ◆ Custom
- 5 To change the settings of the Standard, Auto or Custom corner styles, click Settings.  
*You see the Corner Settings dialog.*



- 6 In the Ranges area, adjust range and corner type settings as required
  - ◆ For each of three angle ranges, enter the lower limit into the “From” field and the upper limit in the “To” field.
  - ◆ For each of the three angle ranges, select a corner type from the drop-down list; choose either Auto-turn, Mitered Capped, or Hand sewn.  
For more information on steil corner types, see "Applying Custom Corners to adjust Satin corner stitches".
- 7 In the Corner Settings area, adjust any of the following settings:
  - ◆ Capped Overlap distance (in mm).
  - ◆ Mitered Overlap distance (in mm).
  - ◆ Hand sewn overlap percentage.
- 8 Click OK to apply the change.

## Distance Setting for Custom Corners

You can adjust the distance for corners that you converted to the Auto-Turn corner type. You can also adjust the overlap distance for corners that you converted to the Mitered or Capped corner types.

### To adjust the distance setting:

- 1 Select the Steil segment.
- 2 Open the Selection Settings panel, and select the Steil tab.  
*You see the Steil Settings property page.*
- 3 Enter a distance for Auto-Turn or an Overlap distance for Mitered or Capped.

## Brush Properties

Brush segments are linear stitch segments made up of transverse stitches. As such, they are superficially much like Steil segments – and indeed, this segment type shares many settings in common with steil segments. For example, the width, angle, and inset settings work the same way as a steil stitch does. For information on these settings, see the corresponding sections under the “Steil Properties” heading, above.

However, Brush segments also have certain unique properties that give it the appearance of calligraphy. These distinct properties are described below.

### To adjust Brush Settings:

- 1 Select a Brush segment.
- 2 In the Properties Panel, select the Brush tab.
- 3 Adjust the following properties:

- ♦ **Tapering End type:** The Brush segment can taper from the start, end, or from both start and end.



To remove all taper, select “None” in the Tapering End type field.

- ♦ **Tapering threshold** settings (Start and End): These determine how far from the start and/or end of the segment the tapering begins. The parameter is expressed as a percentage of the total length of the segment, between 0 - 30%.
- ♦ **Angle Type:** Sets how the stitches will be oriented compared to the path outline. There are two options:
  - ♦ **Orthogonal:** Stitches always cross the outline at right angles.
  - ♦ **Fixed:** The stitches are all parallel to each other, regardless of the direction taken by the outline path. The orientation of the stitches is set in the Brush Angle field.
- ♦ **Brush Angle:** Determines the angle of the stitches relative to the design. Note that this setting will only be applicable if the Angle type is set to Fixed.
- ♦ **Randomness:** Determines how much the width of the Brush path varies. A setting of 0% means no variation in width along the length of the path; the higher the percentage randomness, the more the stitch width will vary.
- ♦ **Minimum Width** and **Maximum Width:** These two settings determine the lower and upper limits, respectively, of the variable width of the Brush segment. Note that they only apply if some amount of Randomness (i.e. greater than 0%) has been entered in the previous step.

- 4 Press **Enter** to ensure that all adjustments have been applied.

*The Brush segment will be altered accordingly.*

## Complex Fill Properties

### Overriding the Stitch Length

You can adjust the stitch length for Fill patterns using the Override Stitch Length setting on the Complex fills pages. By selecting this setting, you override the default stitch length for the Fill pattern, allowing you to set the (maximum) stitch length for the fill.

#### To adjust the stitch length:

- 1 Select the Complex Fill segment.
- 2 In the Properties Panel, select Selection Settings.  
*You see the Selection settings pages.*
- 3 Click the Complex Fill tab.
- 4 In the Stitch area, check the Override stitch length checkbox.
- 5 In the Overriden stitch length field, enter the desired stitch length.

*The segment will be altered accordingly.*

### Complex Fill Angle

The stitch angle of a complex fill is determined by the placement of the angle line. This angle is normally set (using the angle line beads) when the segment is originally digitized.

However, the angle is also displayed on the Properties Panel in the Complex Fill Angle field. You can change the angle of the complex fill stitching by typing a new value into this field.

## Random Stitch Length Settings

In certain situations, it is useful to introduce an element of randomness to the stitch lengths of Complex Fill segments. In the Stitch settings of the Properties Panel—Selection settings, there are settings that control the degree of randomness. These settings control two aspects of the randomization:

- The percentage of randomization in a given segment.
- The upper and lower limits on stitch lengths, so that the randomization process will not produce stitches that are too short or excessively long.

#### To adjust stitch length Randomness settings:

- 1 Select a complex fill segment.
- 2 Open the Selection Settings panel, and select the Complex fill tab.
- 3 In the Stitch area of the Complex fill tab, do the following.
  - ♦ In the Randomness field, enter the percent Randomness to be applied; the larger the value, the greater percentage of stitches will vary from the average stitch length.
  - ♦ Enter a Fill Random Range setting: this value maximum value (in mm) for the randomized stitches.
  - ♦ Enter a value for the Min. random range: this sets the shortest length (in mm) for the randomized stitches.



To set random stitch lengths using the Randomness setting alone, without considering the Fill random range or the Min. random range values, check the **Disable random range limits** check box.

- 4 Press **G** to regenerate stitches.

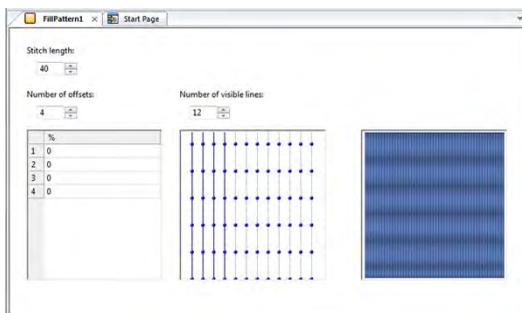
## Creating Standard Fill Patterns

The Standard Patterns dialog lets you see and manipulate the offsets used to create Standard Fill Patterns. You can name new patterns, delete existing patterns, and set the stitch length for the Fill patterns. The offsets used for the new Standard Fill patterns are also displayed and can be modified.

A 3D representation of the Fill pattern is displayed in the Standard Patterns dialog. Blue beads represent stitch penetration points. These beads can be moved by clicking and dragging, allowing you to change the pattern. The Number of Visible lines setting controls how many lines are displayed in the 3D view.

### To create a Standard Fill Pattern:

- 1 Choose Tools—Manage—Fill Patterns...  
*You see the Fill Patterns dialog.*
- 2 In the Fill Pattern dialog, click New.  
*A new tab opens in the Workspace, with the default pattern in place.*



- 3 In the Stitch Length box, enter the length of the stitches you want for your pattern.
- 4 In the Number of Offsets box, enter the number of offsets you want for your pattern.

- 5 In the Percentage boxes, enter the offset percentages you want for your pattern.  
*The window displays a 3D rendering of the Standard Fill Pattern.*



You can also adjust the offsets by dragging the pattern's beads in the Preview box.

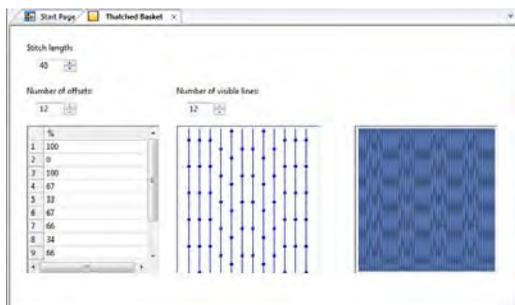
- 6 In the Number of Visible Lines box, enter the number of lines of the pattern you want displayed in your 3D view box.
- 7 To Save the new pattern, do the following:
  - Select File—Save.  
*You see the Save Fill Pattern dialog.*
  - In the Name field, enter a new name for the Pattern.
  - In the Save Fill Pattern dialog, click OK.  
*The new pattern will now be saved in the Fill Patterns directory, and you will now be able to select it from the list of fill patterns in the Complex fill tab of the Properties panel.*

## Editing Standard Fill Patterns

You can edit or delete existing Standard Fill patterns. The offsets used for the new Standard Fill patterns are also displayed and can be modified. The lower right hand corner of the window shows a 3D rendering of the Fill pattern. All of the windows are updated reflecting any changes to the offsets.

### To edit a Standard Fill Pattern:

- 1 Choose Tools—Manage—Fill Patterns...  
*You see the Standard Patterns dialog.*
- 2 From the list of patterns, choose the one you want to edit.
- 3 Click Open.  
*A Fill Pattern tab opens, showing the selected pattern in the Workspace.*



- 4 In the Stitch Length box, enter the length of the stitches (pts) you want for your pattern.
- 5 In the Number of Offsets box, enter the number of offsets you want for your pattern.
- 6 In the percentage boxes, enter the offset percentages you want for your pattern.



You can also adjust the offsets by dragging the pattern's beads in the Preview box.

- 7 Select File—Save to save your changes. *Your changes take effect immediately so you can now apply this pattern to your designs.*

## Selecting a Fill Pattern

When you work with TrueType® fonts and the Complex Fill tool, you can select a pattern for Fills from the Pattern list on the Complex Fills property page. You can choose from any of the standard Fill patterns that are installed with Tajima DG16 by Pulse.



When you work with embroidery fonts and Satin tools, you select a pattern from the Pattern list on the Satin property page.

### To select a pattern:

- 1 Select the Complex Fill segment.

- 2 If it is not already displayed, open the Selection Settings panel.

*You see the Selection settings pages.*

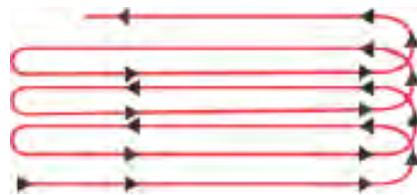
- 3 Click the Complex Fills property page.
- 4 From the Pattern list, select a pattern.

*The selected segment will now display the new pattern.*

## Revolving Complex fill

Revolving complex fill is a different way of sewing complex fill segments. It can be applied to Standard, Carved tile, and Programmed fills.

In a Revolving complex fill, the rows of the fill will "loop" at the ends, crossing back over the previous row rather than just going one direction and then returning. The diagram below shows schematically how this fill type will be sewn out.



### To apply Revolving Complex fill:

- 1 Select the complex fill segment
- 2 On the Fill tab of the properties panel, in the Stitch area, tick the "Revolving" checkbox.

*The selected fill will be changed to a revolving fill type.*

## Selecting Connection Ends

You can select the connection end type you want for Fill stitches. Choose from Square, Chiseled and Sharp.

**To set the connection end:**

- 1 Select the Complex Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Complex Fills property page.
- 4 In the Connection End list, select either the Square, Chiseled, Sharp or E-stitch connection end type.



If the selected segment is a Wave fill, use the separate "Wave Connection End" setting to determine the style of connection end. Note that for Wave fill segments, the Sharp connection end is not applicable.

**Chisel distance setting**

If the Chiseled connection end type is chosen for a Complex Fill or Wave Fill the chisel distance parameter will be activated. The chisel distance specifies the distance that stitches are set into the column in order to achieve a sharp edge effect.

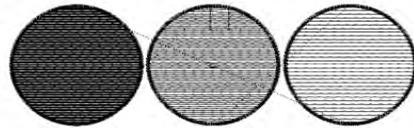
**To set the chisel distance:**

- 1 Select the Complex Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 In the Chisel Distance box, set the distance you want. (The default is 15.0 pts.)

**Complex Fill Density**

Stitch density is measured in stitches per inch (spi) and embroidery points (pts). For stitches per inch, you determine the number of stitches per inch. For embroidery points, you measure the distance between stitches. You adjust density according to the design's size and the fabric you use. Generally speaking, lighter

fabrics and smaller designs require less density. You can set the density in the Complex Fills property page.



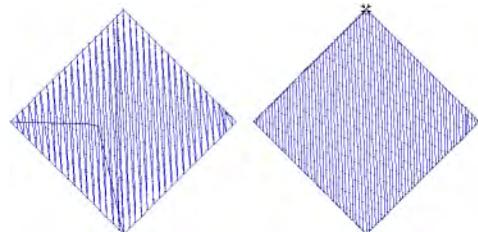
*Fill pattern with various density measurements.*

**To set the stitch density:**

- 1 Select the Complex Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Complex Fills property page.
- 4 In the Density box, enter the density value in spi or pts for your Fill stitches.
- 5 Press **Enter** to apply the change.

**Traveling Run Stitches for Complex Fill**

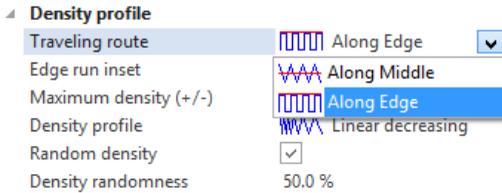
The Traveling route setting determines where traveling Run stitches go in the fill. You can set the traveling run stitches to run Along Middle or Along Edge. Use Along Middle for high-density fills because the traveling Run stitches will not be visible. Use Along Edge for low-density fills, so the traveling Run stitches will be hidden.



*Along Middle and Along Edge*

### To hide traveling Run stitches:

- 1 Select a Complex fill segment.
- 2 In the Properties Panel–Selection Settings, select the Complex fill tab.  
*You see the Complex fill properties.*
- 3 Expand the Density Profile area.
- 4 In the Traveling Route field, choose either Along Middle or Along Edge.



- 5 (Optional) If Along Edge is selected, the Edge run inset setting will become active; input a distance that the Traveling Run will be inset from the outline of the segment.

## Changing the Density Profile of a Complex Fill

The density profile setting is used to vary the fill density across the width of Complex segment. The types of density profile that can be applied are linear Increasing, linear decreasing, convex, or concave. The effect of each profile setting are described in the following table:

Density Profile	What it does
Linear Increasing	Gradually increases the density in a selected segment from the normal density value to the maximum density value.



Density Profile	What it does
Linear Decreasing	Gradually decreases the density in a selected segment from the maximum density value to the normal density value.
Convex	Starts gradually increasing the density in a selected segment from the normal density value to the maximum density value. Then, begins gradually decreasing the density from the maximum density value to the normal density value at the center of the selected segment.
Concave	Starts gradually decreasing the density in a selected segment from the maximum density value to the Normal density value. Then, begins gradually increasing the density from the normal density value to the maximum density value at the center of the selected segment.





You can also determine the range (plus or minus a certain number of points) of variation in the density.

### To apply a density profile:

- 1 Select a Complex fill segment.
- 2 In the Properties Panel–Selection Settings, select the Complex fill tab.  
*You see the Selection settings pages.*
- 3 Expand the Density Profile section.
- 4 In the Maximum density field, enter the desired maximum fill density (in points).

- From the Density profile drop-down list, select:
  - Linear Increasing.
  - Linear Decreasing.
  - Convex.
  - Concave.
- Press Enter to complete the change.  
*You see your segment altered accordingly.*

## Random Fill Density

There is an additional way that density of Complex fill segments, the Random density setting. This setting randomizes the density of the Complex fill within a percentage of the original density.

### To apply a random density to a Complex Fill segment:

- Select a Complex fill segment.
- In the Properties Panel–Selection Settings, select the Complex fill tab.  
*You see the Complex fill properties.*
- Expand the Density Profile section.
- Check the Random density box.
- Enter the desired percentage randomness in the Density randomness field.  
*You see your segment altered accordingly.*

## Variable Density for Complex Fills

The Variable Density setting allows you to generate fills that have a stitch density that varies across the segment.

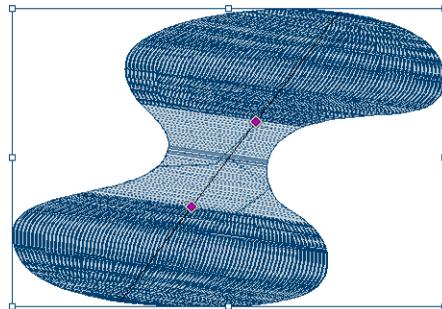
To vary the density, you select a special tool for this purpose, the Density Line tool. When you activate this tool, the Density Line appears in the selected complex fill segment. (This is a straight line connecting the extreme ends of the complex fill.) Use the Density Line

tool to place beads along the line, and then set the density changes that you want to have occur at those points.

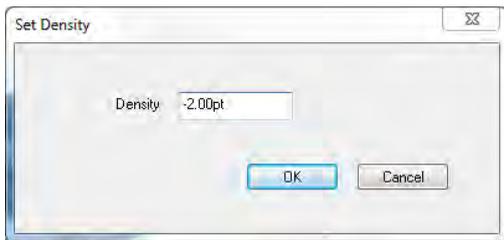
Once you set the amount of change in the density at your beads, you can set the density profile for the segment, which determines the way in which the density changes.

### To vary the density of a complex fill:

- Select a complex fill segment, using the Select tool (or create a new complex fill segment).
- From the Path Edit toolbar, select the Density Line  tool.  
*The density line will appear in the Selected segment; this line is drawn automatically, such that it connects the furthest extents of the segment.*
- Mouse-over the density line, right-click, and choose "Add density bead" from the context menu.  
*A square Density bead is placed on the density line.*



- Right-click on the bead, and choose "Set density" from the context menu.  
*You see the following dialog.*



- 5 In the Density field, enter the value of the density **change** that you want to apply.
- 6 To change the density profile (that is, the manner in which the density will change between beads), right-click on the Density line, in the area of the complex fill where you want the density change to take place.
- 7 From the context menu, select "Set density profile."

*You see the following dialog:*



- 8 Choose one of the density profiles:
  - ♦ **Linear:** The density change is uniform.
  - ♦ **Parabolic1 or Parabolic2:** Density changes at different rates, depending on the part of the segment.
  - ♦ **Step:** The density change occurs all at once, at the bead.
- 9 To set more density changes within the same complex fill segment, repeat steps 3–8.
- 10 Press G to regenerate the stitches.

## Complex Fill Effects Properties

### Applying a Jagged Effect

You can apply jagged edges to your stitches. You need to choose a minimum and maximum range for the jagged edge. The range can be a positive or a negative value. If you set a negative value, the jagged edge is placed on the inside of the column. If you set a positive value, the jagged edge is placed on the outside of the column.



*Jagged effect settings: Both, First, and Second*

#### To apply a jagged effect:

- 1 Select the Complex Fill segment.
- 2 Select the Complex Fill properties tab.
- 3 Under the Jagged edge field, select one of the following jagged effect types:
  - ♦ None.
  - ♦ Both to make both sides of the fill jagged.
  - ♦ First to make the first side of the fill jagged.
  - ♦ Second to make the second side of the stitches jagged.
- 4 In the Jag Randomness box, enter the percentage of jaggedness you want. When you enter larger percentages of jag randomness, the segment edges become more jagged. When you enter smaller percentages of jag randomness, the segment edges become less jagged.

- 5 In the Min. Jagged Range box, enter:
  - ♦ A negative value to place the jagged edge on the inside of the column.
  - ♦ A positive value to place the jagged edge on the outside of the column.
- 6 In the Max. Jagged Range box, enter:
  - ♦ A negative value to place the jagged edge on the inside of the column.
  - ♦ A positive value to place the jagged edge on the outside of the column.
- 7 Press **Enter** to apply the change.  
*You see your segment altered accordingly.*

## Carved Fill Properties

### Adjusting the Carved Tile Pattern Spacing

You can adjust the spacing between Carved Tile patterns using the Horizontal Gap and Vertical Gap settings. Horizontal Gap adjusts the spacing between the repeating pattern horizontally. Vertical Gap adjusts the spacing between the repeating pattern vertically. You can change the look of your pattern by adjusting the spacing of Carved Tile patterns. These settings are ideal for carved patterns that are created from symbols such as hearts or arrows.

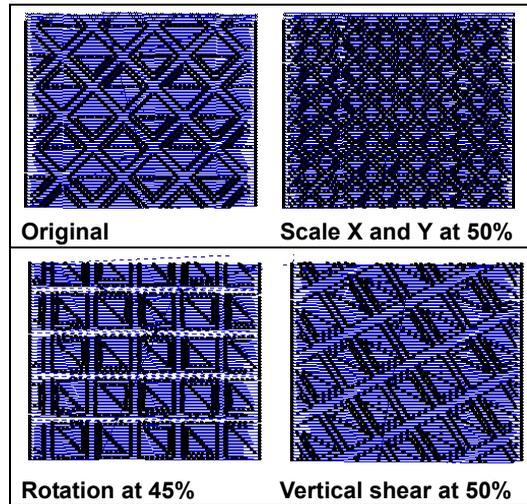
#### To adjust the spacing:

- 1 Select the Carved Tile segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Carved Tile Pattern property page.
- 4 In the Horizontal Spacing or Vertical Spacing box, enter a value.
- 5 Press **Enter** to apply the change.  
*You see your carved tile segment altered accordingly.*

## Adjusting Carved Tile Pattern Characteristics

You can change a Carved Tile pattern by adjusting settings in the Carved Tile Pattern property page. The settings allow you to change a fill pattern's characteristics such as the size or direction of the fill pattern.

The following figures show some effects you can create using the Transformation settings.



#### To change the characteristics of a Carved Tile pattern:

- 1 Select the Carved Tile segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Carved Tile property tab

- 4 In the Carved Tile property tab, apply any of the following adjustments to change the Carved Tile pattern.

To do this	Do this
Adjust the horizontal scaling	Click Scale in X and enter a percentage value.
Adjust the vertical scaling	Click Scale in Y option button and enter a percentage value.
Rotate the pattern	Click Rotation and enter a percentage value.
Tilt the pattern horizontally	Click Shear in X and enter a percentage value.
Tilt the pattern vertically	Click Shear in Y and enter a percentage value.



The Scale and Shear settings do not accept values of more than 100%. The recommended setting for Scale is 80%.

- 5 Press Enter to apply changes.  
*You see your segment altered accordingly.*

## Choosing a Carved Tile Pattern

When you install Tajima DG16 by Pulse, Carved Tile patterns are installed on your computer. You can select a Carved Tile pattern from the Carved Tile Pattern property page. Carved Tile patterns create a grooved or chiseled effect for the designs that you create.

### To choose a Carved Tile pattern:

- 1 Select the Carved Tile segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Carved Tile Pattern property tab.
- 4 In the Carved Tile Pattern list, select a pattern.

- 5 Press **Enter** to apply the change.  
*You see your carved tile segment altered accordingly.*

## Creating Carved Fill Patterns

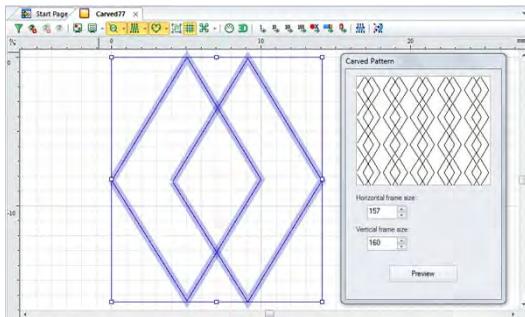
Tajima DG16 by Pulse comes with many Carved Tile patterns. These patterns create satiny regions with a grooved texture. You can apply Carve Patterns to a Complex Fill segment or to a TrueType® font. You can also create your own Carve Patterns using the Carve Pattern Editor.

The Carved Pattern dialog displays the following settings:

- Preview lets you view the resulting Carved pattern.
- Horizontal and Vertical Frame Size settings lets you adjust the size of the grid.

### To create a new Carved Fill pattern:

- 1 On the Manage tab, select Carved Patterns.  
*You see the Carved Patterns Dialog.*
- 2 Click New.  
*A blank Carved Pattern tab opens in the Workspace. Also, you will see a separate Pattern window, in which you can preview the pattern.*
- 3 Select any of the Artwork tools (e.g. Pen, Ellipse, or Rectangle).
- 4 Create a pattern you want by placing points in the area.
- 5 Press Enter to complete the segment.
- 6 In the Carved Pattern dialog, press Preview to see a preview of your pattern.



7 To edit the pattern you have created, use the Vertex Select  tool.

*The Vertex Select tool will let you manipulate the points.*



In order to see the editable points, ensure that Show Dots (Outlines) is turned on.

8 To save your pattern, do the following:

- ◆ Press File—Save.  
*You see the Save Carved Pattern dialog box.*
- ◆ In the Name field, enter a name for your pattern.
- ◆ Click OK.

*Your pattern will be saved to the System Patterns folder.*

## Editing Existing Carved Fill Patterns

Tajima DG16 by Pulse comes with many Carved Tile patterns. These patterns create satiny regions with a grooved texture. You can apply Carve Patterns to a Complex Fill segment or to a TrueType® font. You can also create your own Carve Patterns using the Carve Pattern Editor.



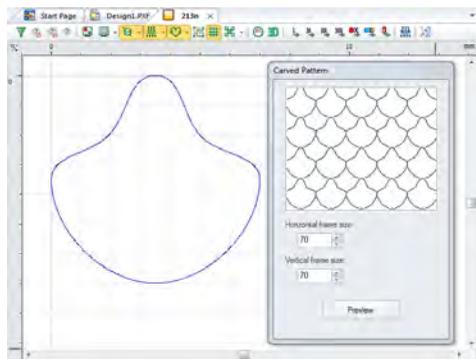
Keep in mind that Carved Fills are a series of Satin stitches, so avoid large open areas.

The Carved Pattern dialog displays the following settings:

- Preview lets you view the resulting Carved pattern.
- Horizontal and Vertical Frame Size settings lets you adjust the size of the grid.

### To edit an existing Carved Fill pattern:

- 1 On the Manage tab, select Carved Pattern. *You see the Carved Patterns dialog.*
- 2 Select one of the patterns in the list of System patterns, and click Open. *The Carved Pattern basic unit opens in a new tab in the Workspace. Also, you will see a separate Carved Pattern window, in which you can preview the pattern, and determine the horizontal and vertical frame size.*



3 You can now edit the existing pattern. To edit the pattern, use the Vertex Select  tool.

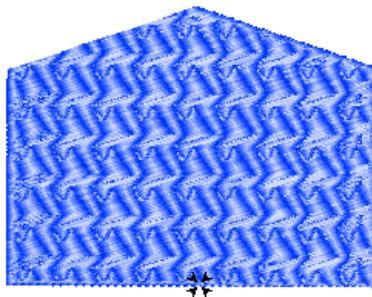
*The Vertex Select tool will let you manipulate the points.*



In order to see the editable points, ensure that Show Dots (Outlines) is turned on.

4 To save the changes you made to your pattern, do the following:

- ◆ In the Carved Pattern Editor dialog, press Save to save your pattern.  
*You see the Save As dialog box.*
- ◆ In the File Name box, enter a name for your pattern.
- ◆ Click the Save button.  
*Your modifications will be saved to the System Patterns directory.*



## Creating Carved Fills

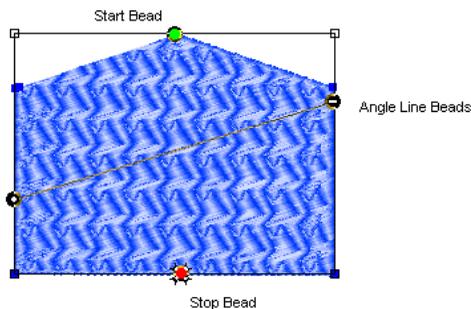
To create a Carved Fill, you need to create a segment with the Complex Fill tool. A variety of patterns are installed with Tajima DG16 by Pulse and you can also create custom Carved Fill patterns. Carved Fill segments are often used as background Fills. You can create a variety of carved effects by using tools such as Region Carving and Line Carving. If you are having difficulty digitizing the segment using Bezier curves, see Bezier curves introduction.

### To create Carved Fills:

- 1 In the Digitizing toolbar, click the Complex Fill  tool.
- 2 If it is not already displayed, open the Selection Settings Property page.
- 3 Click the Complex fill tab.
- 4 From the Fill Type list, select Carved Tile.
- 5 From the Fill Pattern list, select a Carved Tile pattern.
- 6 Punch the segment in the design workspace.
- 7 Press **O** to close the segment.
- 8 Press Enter.

*Your cursor turns into a green arrow. You now need to set the entry and exit points and the angle line.*

- 9 To set the start and stop points and the angle line for your segment, do the following steps:
  - ◆ When the pointer becomes a green arrow, click where you want to set the start point.  
*You see a green bead where you clicked and the pointer becomes a red arrow.*
  - ◆ When the pointer becomes a red arrow, click where you want to set the stop point.  
*You see a red triangle bead where you clicked and the pointer becomes a small arrow with a bead.*
  - ◆ When the pointer becomes a small arrow with a bead, click and drag from the left of the segment to right of the segment to place an angle line in your segment.



*Now, you need to change the properties of your segment to match the fabric and*

*thread you will be using. If you have chosen a Recipe, you have already accepted the default settings for design.*



Once you close the segment, you can right-click repeatedly to quickly set the default start and stop points and angle line.

- 10 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 11 Click the appropriate property page and make the setting changes. Important settings include Pull Compensation, Underlay and Quality Control.

## Offsetting Carved Tile Patterns

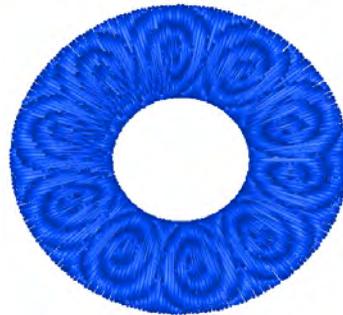
You can change the look of a Carved Tile pattern by adjusting the offsets. The Offset setting allows you to shift the pattern by offsetting each repeating row of the Carved Tile pattern.

### To offset a Carved Tile pattern:

- 1 Select the Carved Tile segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Carved Tile Pattern property page.
- 4 Enter an offset value in the Offset box.  
*You see your carved tile segment altered accordingly.*

## Stretching Carved Fill Patterns

You can stretch a Carved Fill pattern using the Carve Type setting. By choosing Elastic from the Carve Type list, you can create a different effect on regular Carved Fill patterns.



### To use the Elastic effect:

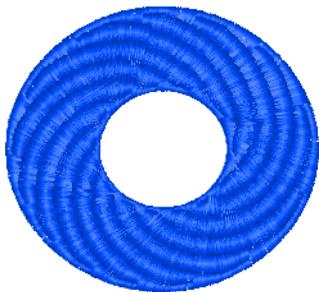


If you are using Satin Path, press O to complete the segment and press D to set the angle line.

- 1 Do one of the following:
  - ♦ Select the existing segment.
  - ♦ Choose one of the following Digitizing tools: Satin Path , Enhanced Column , or Column  tools and create a segment.
- 2 Apply the appropriate settings.
- 3 In the Fill type list, select Carved Tile.
- 4 In the Pattern list, select a pattern.
- 5 In the Carve Type list, select Elastic.  
*If you cannot see this setting, open the Selection Settings panel. Find the setting on the Carved Tile Pattern property page and Press **Enter** to apply the change.  
*You see your segment altered accordingly.**

## Turning Carved Fill Effect

You can slant or "turn" a Carved Fill pattern sideways using the Carve Type setting. By choosing Turning from the Carve Type list, you can create a different effect on regular Carved Fill patterns. You can add the turning effect to an existing segment or you can create a new Turned effect segment.



### To use the Turning effect:



If you are using Satin Path, press O to complete the segment and press D to set the angle line.

- 1 Do one of the following:
  - ♦ Select the existing segment.
  - ♦ Choose one of the following Digitizing tools: Satin Path , Enhanced Column , or Column  tools and create a segment.
- 2 Apply the appropriate settings.
- 3 In the Fill type list, select Carved Tile.
- 4 In the Pattern list, select a pattern.
- 5 In the Carve Type list, select Turning.

## Cascade Fill

The Cascade Fill tool creates a kind of contour stitch which can be used to fill large areas with relatively few stitches.

Like the other punching tools, you first punch an artwork outline (in any of your available drawing modes) and then generate stitches. However, the Cascade fill is different from other fills in it creates a concentric series of run stitches. The run stitches are sewn parallel to the original, punched outline

## Cascade Fill Properties

The following adjustments can be made to Cascade fills in the Properties panel:

- **Cascade Spacing:** This is the distance (mm) between each of the 'rings' (run segments) in the fill.
- **Stitch length:** Length of the run stitches in the fill.
- **Fill Stitch style:** Choose one of the following stitch types - standard run, two-ply, bean, half-bean, or programmed.
- **Bean Repeat:** Setting is only displayed when fill type is Bean. This setting determines how many stitches are sewn in each bean stitch.
- **Drop Stitch:** Choose "None" or "Chord Gap". In situations where the sewing in a design has to turn a sharp corner, choosing "Drop Stitch" means that the software will generate a series of shorter stitches, so as to make a smoother curve at the apex of the bend.
- **Min Stitch Length and Max Chord gap distance:** If "Chord Gap" is selected in the Drop Stitch setting, these settings become active. The chord gap distance is the difference that is allowed between the curve that the stitches are following, and the actual stitches that will be sewn. The **minimum stitch length** sets a lower limit on the length of the stitches that will be used to smooth the curve.

## Spiral Fill

The Spiral Fill tool creates a fill segment that fills the digitized outline with linear (run-type) stitches. It looks somewhat like a contour stitch, except in the Spiral fill pattern, the stitches are laid out in one continuous run.

## Setting Spiral Fill Properties

To see the segment settings that are apply specifically to Spiral Fill, first open the Properties panel, and then select the Spiral

 tab. The following settings can be adjusted for Spiral Fill segments.

### Spiral fill settings:

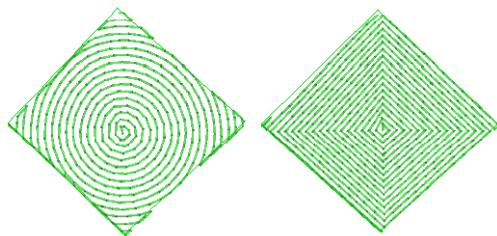
**Use Custom Shape:** If this box is unchecked, the stitches of the Spiral Fill segment will follow the digitized outline that you have drawn with the tool.

On the other hand, If the box is checked, the stitches will run parallel to the custom shape. You select in the “Spiral Fill Shape” field in the property panel. See the example below.



You can create and save custom shapes for use with the spiral fill tool using the tools on the Artwork toolbar.

See “Creating Spiral Shapes”, below.



*Spiral fill examples: with custom shape (circle) on left, without custom shape on the right.*

- **Spacing Profile:** You can use the spacing profile of the to create special effects in the Spiral fill. The spacing profile setting varies the spacing between a normal and maximum value. There are four choices of setting (“none” is the default setting).
  - ♦ Linear Increasing
  - ♦ Linear Decreasing

- ♦ Convex
- ♦ Concave

*For an explanation of these spacing profiles, see “Creating Density Effects”.*

- **Fill Stitch style:** Choose one of the following stitch types - standard run, two-ply, bean, half-bean, or programmed.
- **Stitch length:** Length of the run stitches in the Spiral fill.
- **Drop Stitch:** Choose “None” or “Chord Gap.” In situations where the sewing in a design has to turn a sharp corner, choosing “Drop Stitch” means that the software will generate as series of shorter stitches, so as to make a smoother curve at the apex of the bend.
- **Min Stitch Length and Max Chord gap distance:** If you select “Chord Gap” in the above setting, these two settings become active.
  - ♦ The **chord gap distance** is the difference that is allowed between the curve that the stitches are following, and the actual stitches that will be sewn.
  - ♦ The **minimum stitch length** sets a lower limit on the length of the stitches that will be used to smooth the curve.

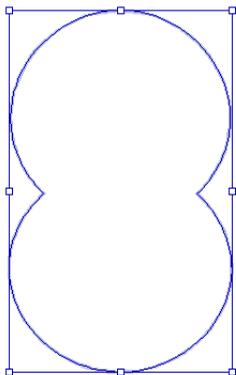
## Creating Spiral Shapes

You can add your own shapes to list be used in the Spiral Shapes using the artwork tools. Once created, shapes can be saved as a special file type. Saved shapes will appear in the “Spiral fill shape” field of the Spiral fill Selection settings page.

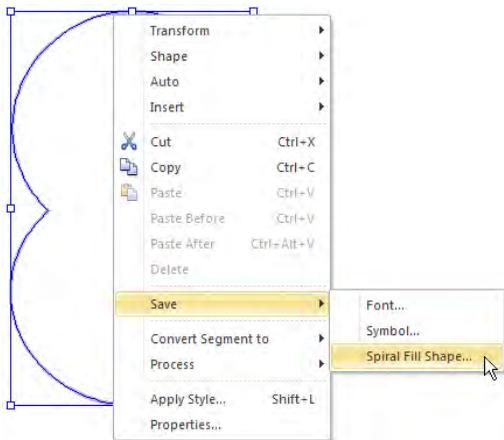
### To Create a custom Spiral Shape:

- 1 Open a new blank design.
- 2 Select one of the artwork tools, e.g. the Pen, Ellipse, or Rectangle tools.

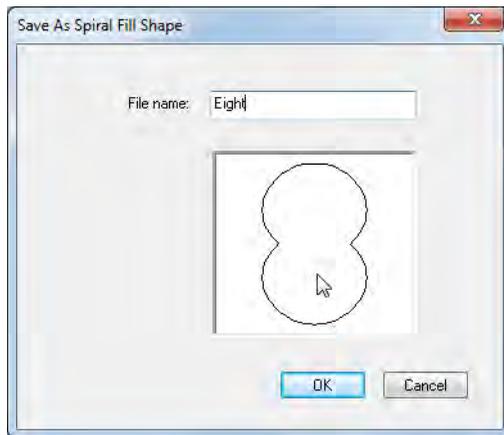
- In the workspace, draw the desired shape.
- Using the Select tool, and select the artwork.  
*The artwork segment will appear in a selection box with handles.*



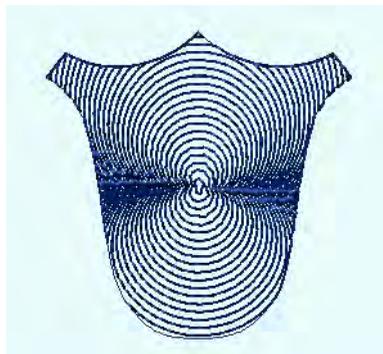
- Right-click the shape, and choose Save—Spiral Fill shape from the context men.



*The “Save as Spiral Fill Shape” dialog appears, previewing the selected shape.*



- Enter a name for the shape in the File name field, and Press **Enter** to apply the change.  
*The new shape will appear in the Spiral Fill shape list in the segment setting panel.*



*Example of a spiral fill with the new shape applied to it*

## Random Settings:

There are two kinds of Random Style settings available with the Spiral Fill segment type: stitch length, or spiral spacing.



It is also possible to choose both random stitch length and random spacing.

The Random setting determines how often the direction of the run stitch changes in the segment. The degree of randomness is given as a percentage; a low percentage corresponds to relatively few changes in the sewing direction, and a large percentage corresponds to many changes in the direction of the run stitch.

## Repeat Settings

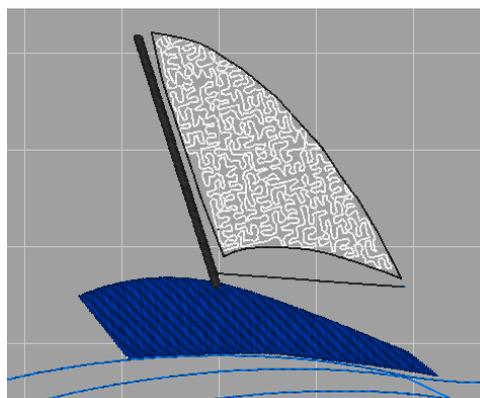
You can repeat the stitches in the Spiral fill segment to create a heavier embroidery. If you repeat a Run stitch twice, the stitches sew the entire length of the segment and then back to the start of the segment. If you repeat a Run stitch 3 times, each stitch is sewn three times before moving to the next stitch in the segment to create stitching similar to Bean stitches. There are two types of adjustments that you can make to the repeat stitch settings.

- **Offset Repeat** and **Swing Repeat:** Both types of repeats serve the same purpose; they shift the penetration points of run stitches on the repeats, to avoid placing stitches with the same penetration points. The Offset setting, if used, displaces the “return” stitch by a certain percentage along the length of the segment; the Swing setting displaces the penetration points from side to side (like a zig-zag) on the repeat run.
- **Bean Repeat:** Setting is only displayed when fill type is Bean. This setting determines how many stitches are sewn in each bean stitch.

## Fractal Fill

The Fractal Fill effect (sometimes known as vermicelli stitch) generates a randomized pattern of run stitches within a complex fill segment. The Fractal Fill effect is a good way to fill a segment while keeping stitch count low.

You can adjust the stitch density, stitch length, maximum run chord gap, and degree of randomness of your Fractal Fill from the Properties Bar or from the Segment Settings pages.



*Fractal fill used to fill a large area, in this case the white sail on the boat.*

## Adjusting stitch length of Fractal Fill

### To adjust stitch length of a Fractal Fill:

- 1 Select the Fractal Fill segment.
- 2 If it is not already displayed, open the Properties panel.  
*You see the Selection settings page.*
- 3 Click the Complex fill tab.
- 4 In the Fractal Fill section, in the Stitch Length field, enter the stitch length.  
*The selected segment is altered accordingly.*

## Changing the density of Fractal Fill

### To set the stitch density:

- 1 Select the Fractal Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Quality Control tab Fractal Fills property page.
- 4 In the Density box, enter the density value in spi or pts for your Fill stitches.

## Adjusting the chord gap for Fractal Fill

A chord gap is a gap between the path a traveling run stitch is following and the actual stitches when traveling around a curve. A large chord gap can cause stitches to stick outside of the top stitching. This setting adds additional stitches to smooth curves and reduce stitches sticking outside.

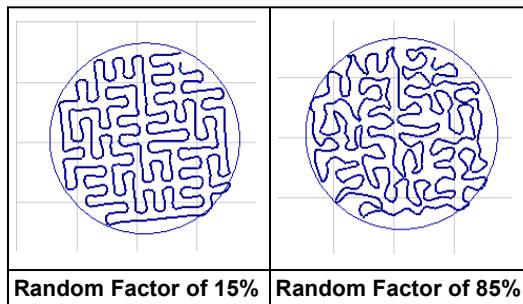
### To set the run maximum chord gap:

- 1 Select the Fractal Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Quality Control tab on the Fractal Fills property page.
- 4 In the Run Max Chord Gap Distance box, enter a value.

## Adjusting the random factor of Fractal Fill

The Random Factor is a property which governs how often the direction of the run stitch changes in a Fractal Fill segment. The degree of randomness is given as a percentage; a low

percentage corresponds to relatively few changes in the sewing direction, and a large percentage corresponds to many changes in the direction of the run stitch. This effect can be most easily understood graphically - see the following examples



### To change the Random Factor:

- 1 Select a Fractal Fill segment.
- 2 Type a value in the Random Factor box on the Properties Bar.
- 3 Press **Enter**.

## Programmed Fill Properties

### Setting the Stitch Length for Programmed Fills

When you create Programmed Fill patterns you may need to adjust their stitch length. You can adjust the stitch length in the Stitch Length text box in the Programmed Fill property page or in the Stitch Length text box on the Properties Bar at the top of your design workspace. Adjusting the stitch length can help control the pattern's size.

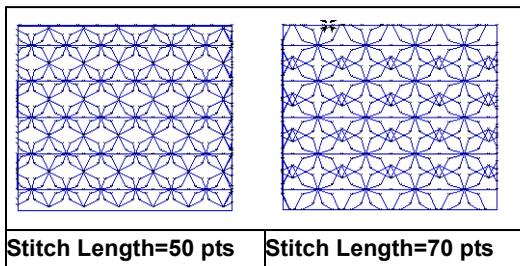
### To adjust the stitch length of a Programmed Fill:

- 1 Select the Programmed Fill segment.

- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
  - 3 Click the Programmed Fill property page.
  - 4 In the Stitch Length text box, enter the stitch length.
- You see your segment altered accordingly.*

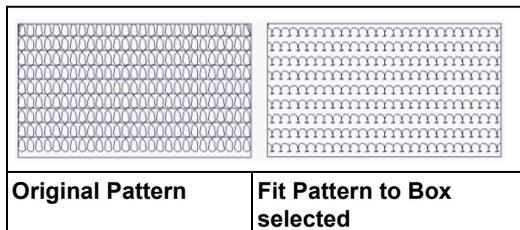
**To adjust stitch length using the Properties Bar:**

- 1 Select the Programmed Fill segment.
- 2 In the Stitch Length text box, enter the stitch length



**Changing the look of a Programmed Fill Pattern**

You can change the look of a Programmed Fill pattern by adjusting the settings in the Programmed Fill property page. Fit Pattern to Box divides the pattern into individual boxes, and then fits the pattern to each box, changing the pattern's look. Depending on the pattern you select, some patterns may not look different after using Fit Pattern to Box.

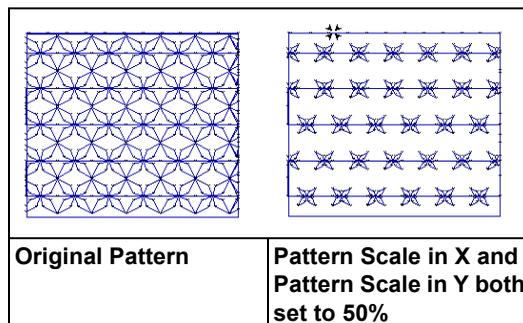


**To change the look of a Programmed Fill pattern:**

- 1 Select the Programmed Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Programmed Fill property page.
- 4 Select **Fit Pattern to Box**.  
*You see your segment altered accordingly.*

**Changing the Programmed Fill Pattern Size**

You can change the stitch direction of a Programmed Fill pattern to create a different effect by adjusting coordinates in the Programmed Fill property page.



**To change the horizontal and vertical pattern size:**

- 1 Select the Programmed Fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Programmed Fill property page.
- 4 In the Pattern Scale in X text box, enter a percentage setting for the horizontal coordinates.

- 5 In the Pattern Scale in Y text box, enter a percentage setting for the vertical coordinates.  
*You see your segment altered accordingly.*

## Programmed Fill Pattern Size

The Pattern Size setting changes the length of individual units in a programmed fill segment. When you adjust the Pattern size setting, it sets the length of each unit in the pattern (that is, in the dimension parallel to fill's direction line), and the width of each unit is then scaled accordingly.

The pattern size setting is found on the Programmed Pattern  tab of the Segment settings panel.



Note that the Pattern Size does not effect the length of individual stitches in the Programmed fill.

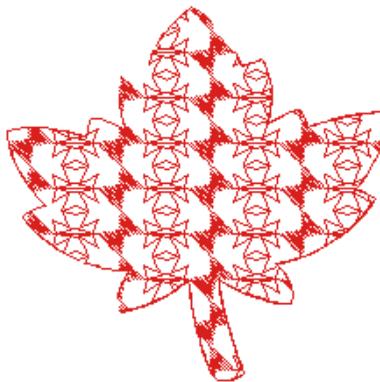
## Choosing a Programmed Fill Pattern

When you install Tajima DG16 by Pulse, Programmed Fill patterns are installed on your computer. You can select a Programmed Fill pattern from the Programmed Fill Pattern field in the Properties panel or from the Pattern box on the Properties Bar at the top of your design workspace.

There is also an option to add a second Programmed pattern to the fill. When this option is applied, the two fill types will appear as alternating rows (or columns, depending on how the direction line is oriented) in the filled segment.

### To choose a Programmed Fill pattern:

- 1 Select the Programmed Fill segment.
- 2 If it is not already displayed, open Properties and choose Selection Settings.  
*You see the Selection settings pages.*
- 3 Click the Programmed pattern  tab.
- 4 In the Programmed Fill Pattern list, select a pattern.  
*The selected pattern appears in the fill segment.*
- 5 (Optional) To add a second pattern to the fill, do the following:
  - ♦ In the Programmed pattern selection setting panel check Mixed pattern fill bo  
*The Mixed pattern field becomes active.*
  - ♦ In the Mixed pattern drop-down list, select a second programmed pattern.  
*The second pattern appears in the segment alternating with the original pattern.*



*Fill shape with mixed programmed fills applied*

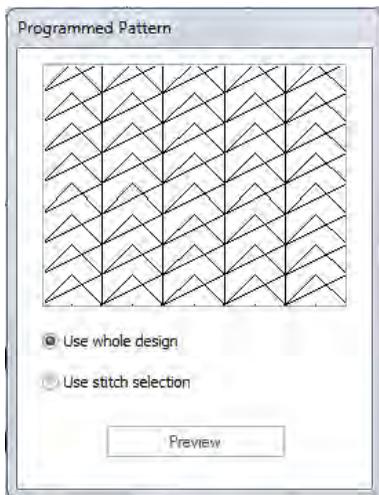
## Creating Programmed Patterns

The Programmed Pattern Editor is a way to create and edit custom programmed patterns. The pattern opens in a new tab in the design

workspace, and you use the Run or Manual tools to create a single pattern unit. This element will be repeated throughout the Programmed fill when the pattern is applied to a complex fill with the “Programmed Pattern” option selected. Clicking the Preview button on the dialog lets you see what the resulting Programmed pattern will look like when used as a fill.

### To create a Programmed pattern:

- 1 Choose Tools—Manage—Programmed Patterns.  
*You see the Fill Patterns dialog.*
- 2 Click the **New** button.  
*A new tab will open in the workspace. You will also see the Programmed Pattern dialog.*



- 3 Select either of the Run or Manual digitizing tools.
- 4 In the new tab, create the basic unit of your programmed pattern.
- 5 Do one of the following:
  - ♦ Select “Use whole design” to include the whole design as the pattern.

- ♦ To use only a part of the design for the pattern, do the following steps:
  - ♦ Select either the Stitch Select tool or the Lasso Stitch Select tool.
  - ♦ Select the stitches you want to use.
  - ♦ In the Programmed Pattern dialog, select “Use stitch selection.”



Click Preview in the Programmed Pattern window to see the pattern.

- 6 Choose File—Save to save the new pattern.  
*You see the “Save Programmed Fill pattern” dialog.*
- 7 In the File name box, enter the name for the pattern.
- 8 Click Save to save the pattern.  
*The pattern will be saved to the following folder by default: C: Program Files\Tajima \DG16 by Pulse\Patterns\ Program.*

## Editing Existing Programmed Patterns

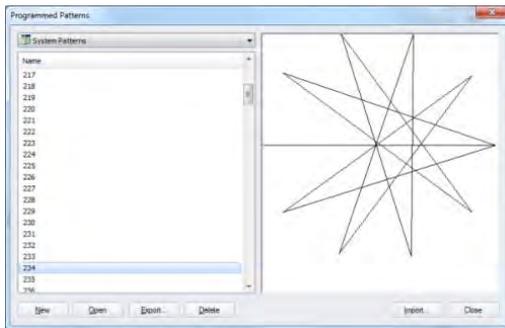
Using the Programmed fill Manager, it is easy to open and modify an existing Programmed Fill Pattern.

### To edit existing Programmed Patterns:

- 1 Choose Tools—Manage—Programmed Patterns.  
*You see the Programmed Pattern dialog.*
- 2 Select one of the program patterns from the list.



The patterns that are shown in the list will be those saved to the Patterns folder in the Tajima\DG16 by Pulse folder.



- 3 Click on the pattern you want to edit.  
*You see a preview of the pattern.*
- 4 Click Open.  
*The basic unit of the chosen pattern will open in a new tab. You will also see the Programmed Pattern dialog.*
- 5 Using the Select Tool or Vertex Select tool, edit the programmed pattern unit.
- 6 Click Preview to see a preview of the edited pattern.
- 7 Click Save to resave the pattern.  
*At this point you can rename the pattern so that you do not alter the existing pattern.*

## Offsetting Programmed Fill Patterns

You can change the look of a Programmed Fill pattern by adjusting the settings in the Programmed Fill property page. The Pattern Offset setting allows you to shift the pattern by offsetting each repeating row of the Programmed Fill pattern. These settings are ideal for many standard Programmed Fill patterns.

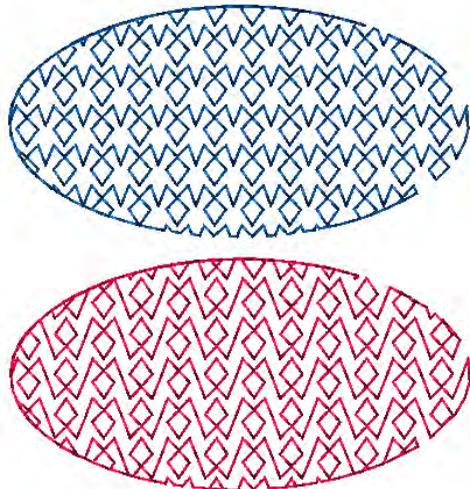
### To offset a Programmed Fill pattern:

- 1 Select the Programmed Fill segment.
- 2 On the Selection Settings panel, click the Programmed Fill tab.

- 3 Enter an offset value in the Pattern Offset box.
- 4 Press Enter.  
*You see the segment altered accordingly.*

## Flipping the Programmed Pattern

As with programmed run segments, you can flip the units of programmed pattern. When flipped, each individual unit in the pattern will alternately flip its orientation. This setting is found on the Programmed pattern tab of the Properties—Selection Settings panel.

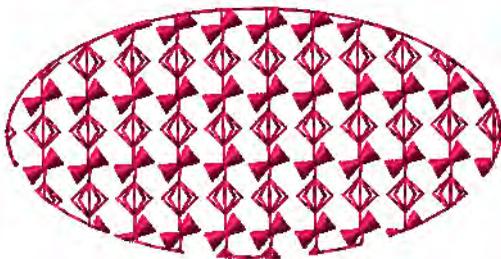


*Programmed pattern before (top) and after (bottom) applying Flip every other pattern.*

To create a flipped pattern, select a programmed fill segment and check the “Flip every other pattern” box on the Selection Settings panel.

## Mixed Pattern Fill

There is an option in the Programmed Fill Properties to add a second pattern, so as to create a mixed programmed pattern. When this option is applied, the two pattern types will appear alternately in the fill segment.



To create a mixed programmed pattern, select a programmed fill segment. Open the Programmed pattern tab of the Properties—Selection Settings panel. Check the “Mixed pattern fill” box, and then select a second programmed fill pattern from the “Mixed pattern” field.

## Changing Appliqué Properties

### Placing Appliqué Border Positioning Stitches

You can choose whether to place run positioning stitches for an appliqué border. The default action is to place run stitches.

#### To place run positioning stitches:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 Do one of the following:

- ♦ To place the run positioning stitch, select Run positioning, if not already selected.
- ♦ To remove the run positioning stitch, ensure Run positioning is not selected.

#### 4 Press Enter.

*You see the segment altered accordingly.*

## Adjusting Settings for Run Positioning

Once you place run positioning stitches for an appliqué border, you can adjust any of its default settings available. You must make all changes to run positioning in the Run area of the Appliqué Selection settings dialog.

#### To adjust the settings for run positioning:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 In the Stitch Length box, enter the length of each stitch for the run.
- 4 In the Offset box, enter the distance to offset the run from the segment outline.



The offset value can be positive or negative. This value will affect which side of the outline the run will sew on.

- 5 From the Stop list, select one of the following commands to appear immediately after your last stitch in the Run component:
  - ♦ **None:** Apply no command after your last stitch in the Run component.
  - ♦ **Stop:** Apply a stop command after your last stitch in the Run component.
  - ♦ **Stop With Color Change:** Apply a stop command and a color change after your last stitch in the Run component.
  - ♦ **Stop without Frame Out:** Apply a Stop, but no Frame Out, after the last stitch in the Run component.
- 6 Press Enter.

## Moving the Machine Frame to Place Appliqués

You can choose where to move the embroidery machine's frame while placing appliqués. You can set the distance between the top of the appliqué segment and the position where the head will stop after the run positioning or tack down stitch is sewn.

### To move the embroidery machine's head:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 Do one or more of the following:
  - ♦ To move the embroidery machine's head after the run positioning is sewn, select Run positioning, if not already selected, and complete Step 6 under "Adjusting settings for run positioning".
  - ♦ To move the embroidery machine's head after the tack down stitch is sewn, select Tack down, if not already selected, and complete Step 7 under "Adjusting run settings for tack down stitches".
- 4 In the Frame out distance box, enter a distance value for how far above the design the frame out movement will jump. After the initial run or tack down stitch, the machine stops to give the operator a chance to place the appliqué piece. Selecting the frame out setting causes the frame of the machine to move out a specified distance towards the operator, making it easier to place the appliqué on the fabric. For example, if the distance value is 50.00mm, the frame out will move 50.00mm straight up vertically from the last stitch in the Run component and above the top of the design. The machine will then place a Stop or a StopWithColor in this location, jump

back to the original location and continue stitching.

- 5 Press Enter.

## Placing Appliqué Border Tack Down Stitches

You can choose whether to place tack down stitches for an appliqué border. The default action is to place tack down stitches.

### To place tack down stitches:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 Do one of the following:
  - ♦ To place the tack down stitch, select Tack down, if not already selected.
  - ♦ To remove the tack down stitch, ensure Tack down is not selected.
- 4 From the Type list, select one of the following stitch types:
  - ♦ E-stitch
  - ♦ Running
  - ♦ ZigZag  
*You see the segment altered accordingly.*

## Run Settings for Tack Down Stitches

Once you place tack-down stitches for an appliqué border, you can adjust any of the available default run settings. You must make these changes in the Tack Down area of the Appliqué Properties page.

### Adjusting run settings for tack down stitches:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*

- 3 From the Type list, select the Running stitch type.
- 4 In the Stitch Length box, enter the length of each stitch for the tack down.
- 5 In the # of Repeats box, enter the number of times that the tack down component will be sewn. Only values equal to 1 or higher are allowed. After all repeats are sewn, stops will be applied, if applicable.
- 6 From the Stop list, select one of the following commands to appear immediately after your last stitch in the Run component:
  - ♦ **None:** Apply no command after your last stitch in the Run component.
  - ♦ **Stop:** Apply a stop command after your last stitch in the Run component.
  - ♦ **Stop With Color Change:** Apply a stop command and a color change after your last stitch in the Run component.
  - ♦ **Stop without Frame Out:** Apply a stop, but no Frame Out, after the last stitch in the Run component.
- 7 Press Enter.

## Zigzag Settings for Tack Down Stitches

Once you place tack down stitches for an appliqué border, you can adjust any of its default zigzag settings available. You must make these changes in the Tack Down area of the Appliqué Properties page.

### Adjusting zigzag settings for tack down stitches:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Type list, select the ZigZag stitch type.

- 4 In the Density box (for E-stitch and ZigZag stitch only), enter the density of the Zig-zag stitching.
- 5 In the Width box (for E-stitch and ZigZag stitch only), enter the width of the ZigZag stitching.
- 6 Press Enter to apply the setting.

### To adjust zigzag density settings using the Properties Bar:

- 1 Select the Appliqué segment.
- 2 In the Density box, enter the density of the ZigZag stitching.
- 3 Press **Enter** to apply the change.

## E-stitch Settings for Tack Down Stitches

Once you place tack down stitches for an appliqué border, you can adjust any of its default e-stitch settings available. You must make these changes in the Tack Down area of the Appliqué Properties page.

### Adjusting E-stitch settings for tack down stitches:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Type list, select the E-Stitch stitch type.
- 4 In the Density box (for ZigZag and E-stitch only), enter a value for the density.
- 5 In the Width box (for ZigZag and E-stitch only), enter a stitch width.

### To adjust e-stitch density settings using the Properties Bar:

- 1 Select the Appliqué segment.
- 2 In the Density box, enter the density of the E-stitch stitching.

- 3 Press **Enter** to apply the change.  
*You see the segment altered accordingly.*

## Shifting Appliqué Border Tack Down Stitches

You can shift the tack down stitches in an appliqué border. You must make these changes in the Tack Down area of the Appliqué Properties page.

### To shift tack down stitches:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Type list, select one of the following stitch types:
  - ♦ E-stitch
  - ♦ Running
  - ♦ ZigZag
- 4 In the Offset box (for Running stitch only), enter the distance that the tack down will be offset from the segment outline.



The offset value can be positive or negative. This value will affect which side of the outline the tack down will sew on.

- 5 In the Inside box (for E-stitch and ZigZag stitch only), enter a percentage value. The percentage value is the amount of tack down you want sewn on the inside of the appliqué segment line.
- 6 Press **Enter** to apply the change.

## Inserting a Stop Code after Tack Down Stitches

You can place a stop code after tack down stitches are placed for appliqué borders. Stop code settings allow you to stop the machine after tack down stitches and cut an appliqué

directly on the machine. You must make these changes in the Tack Down area of the Appliqué Properties page.

### To insert a stop code:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Stop list, select one of the following commands to appear immediately after your last stitch in the Tack Down component:
  - ♦ **None:** Apply no command after your last stitch in the Tack Down component.
  - ♦ **Stop:** Apply a stop command after your last stitch in the Tack Down component.
  - ♦ **StopWithColor:** Apply a stop command and a color change after your last stitch in the Tack Down component.
- 4 Press **Enter** to apply the change.

## Placing the Appliqué Border

You can choose whether to place appliqué border stitches for an appliqué. The default action is to place appliqué border stitches.

### To place the appliqué border for an appliqué:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 Do one of the following:
  - ♦ To place the appliqué border stitch, select Appliqué border, if not already selected.
  - ♦ To remove the appliqué border stitch, ensure Appliqué border is not selected.

- 4 From the Type list, select one of the following stitch types:

- ◆ E-stitch
- ◆ Programmed Run
- ◆ Steil

*You see the segment altered accordingly.*

## Steil Settings for an Appliqué Border

Once you place appliqué border stitches for an appliqué, you can adjust any of its default steil settings available. You must make all changes to appliqué borders in the Appliqué borders area of the Appliqué Properties page.

### To adjust Steil settings for an appliqué border:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Type list, select the Steil stitch type.
- 4 In the Width box (for E-stitch and Steil only), enter the width of the appliqué border stitching.
- 5 In the Density box (for E-stitch and Steil only), enter the density of the Steil stitching.
- 6 From the Corners list (for Steil only), select one of the following steil corner styles.



The steil corner style you select will automatically adjust the corners accordingly to improve stitch quality.

- ◆ None
  - ◆ Style A
  - ◆ Style B
- 7 Press **Enter** to apply the change.  
*You see the segment altered accordingly.*

## E-stitch Settings for an Appliqué Border

Once you place appliqué border stitches for an appliqué, you can adjust any of its default E-stitch settings available.

You must make all changes to appliqué borders in the Appliqué borders area of the Appliqué Properties page.

### To adjust E-stitch settings:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Type list, select the E-Stitch stitch type.
- 4 In the Width box (for E-stitch and Steil only), enter the width of the appliqué border stitching.
- 5 In the Density box (for E-stitch and Steil only), enter the density of the E-stitch stitching.
- 6 In the Center stitch length box, enter a percentage value. This setting determines the length of the center leg of the E-stitch as a percentage of the length of the outer legs of the E-stitch.

## Programmed Run Settings for an Appliqué Border

Once you place appliqué border stitches for an appliqué, you can adjust any of its default programmed run settings available. You must make all changes to appliqué borders in the Appliqué borders area of the Appliqué Properties page.

### To adjust programmed run settings:

- 1 Select the Appliqué segment.

- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Segment Settings pages.*
- 3 Click the Appliqué property page.
- 4 From the Type list, select the Programmed Fill stitch type.
- 5 From the Pattern list (for Programmed Fills only), select a programmed pattern that will be used for the appliqué border.
- 6 In the Stitch Length box, enter the length of each stitch for the appliqué border.

## Shifting Appliqué Border Stitches

You can shift the Steil stitches of an appliqué border. Using the Inset Percentage setting, you can move a Steil stitch border closer or further from an appliqué segment. Moving the border closer allows you to compensate for any gaps between the border and appliqué segment.

You must make all changes to appliqué borders in the Appliqué borders area of the Appliqué Properties page.

### To shift appliqué borders for appliqué:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 From the Type list, select one of the following stitch types:
  - ♦ E-stitch
  - ♦ Programmed Run
  - ♦ Steil
- 4 In the Offset box (for Programmed Run only), enter the distance that the appliqué border will be offset from the segment outline.

- 5 In the Inside box (for E-stitch and Steil only), enter a percentage value. The percentage value is the amount of appliqué border you want sewn on the inside of the appliqué segment line.
- 6 Press **Enter** to apply the change.  
*You see the segment altered accordingly.*

## Repeating Stitches in an Appliqué

Tajima DG16 by Pulse allows you to repeat the number of stitches sewn in an appliqué border. You can change the number of repeating stitches in the Appliqué borders area of the Appliqué Properties page.

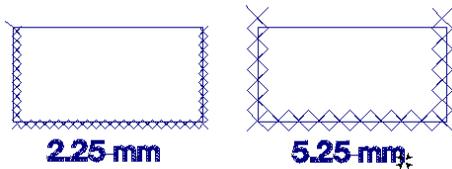
### To repeat stitches in an appliqué:

- 1 Select the Appliqué segment.
- 2 Open the Properties panel, and select the Appliqué tab.  
*You see the Appliqué settings page.*
- 3 Click the Appliqué property page.
- 4 In the # Repeats box, enter the number of times that the appliqué border component will be sewn. Only values equal to 1 or higher are allowed. After all repeats are sewn, stops will be applied, if applicable.
- 5 Press **Enter** to apply the change.

## Cross-stitch Properties

### Grid Spacing for Cross-stitch

You can specify the size of the grid used to specify the size of each cross-stitch. The following figures show the grid space set to 2.25 mm and 5.25 mm.



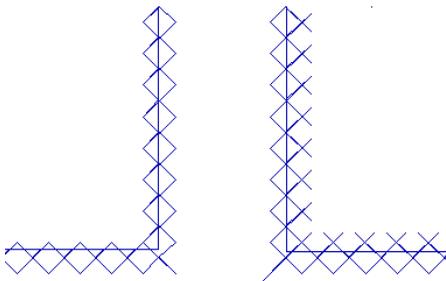
### To adjust the grid spacing:

- 1 Select the Cross-stitch segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Cross-stitch property page.
- 4 In the Grid Spacing text box, enter a value.
- 5 Press **Enter** to apply the change.

*You see the segment altered accordingly.*

## Overlap Setting for Cross-stitch Segments

You can set how far you want to extend the diagonal stitches over the edge of the grid box. Overlap is similar to pull-compensation in standard embroidery. The actual penetration point will be the distance you set along the diagonal, outside the specified grid box. When two crosses are next to each other, there is an extra stitch placed to maintain the cross with an overlap.



*The segment on the left shows an overlap of 0 pts. The segment on the right shows an overlap of 10 pts.*

### To adjust the overlap in the Cross-stitch property page:

- 1 Select the Cross-stitch segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Cross-stitch property page.
- 4 In the Overlap box, enter a value.
- 5 Press **Enter** to apply the change.

## Inserting a Run into a Cross-stitch segment

You can change to a Run stitch while you use the Cross-stitch  tool. You can select a Run stitch type to "walk" to another Cross-stitch segment or color change.

### To change to a Run stitch:

- 1 Select the Cross-stitch segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Cross-stitch property page.
- 4 From the Stitch Type list, select **Run** or **Cross**.

## Repeat Setting for large Cross-stitch

You can set the number of times the embroidery machine sews over the branches of a single cross-stitch. The setting is similar to a Bean stitch in standard embroidery – the machine sews over the original stitching the number of times you set.

### To set the number of repeats in the Cross-stitch property page:

- 1 Select the Cross-stitch segment.

- 2 On the Selection Settings panel, click the Cross-stitch tab.
- 3 In the Repeats box, enter a value.
- 4 Press **Enter** to apply the change.  
*You see the segment altered accordingly.*

## Snap Setting for Cross-stitch Fill

The Snap setting determines the placement of cross-stitches in a fill segment will be aligned - relative to the origin (0,0) point, the segment, or the workspace grid.

### To set the Cross-stitch Snap setting:

- 1 Select a Cross-stitch Fill segment.
- 2 On the Properties Panel–Selection Settings, select the Cross-stitch tab.
- 3 Click the Snap field to open the drop-down list of Snap options. Select one of the following from the list:
  - ♦ **Absolute:** The stitches will be oriented such that the edges are parallel to (imaginary) lines drawn through the origin. (This is the default setting.)
  - ♦ **Relative:** The stitches in are oriented relative to the segment's outlines.
  - ♦ **Visual:** The stitches are oriented relative to the workspace grid.  
*The stitches in the segment will be adjusted accordingly.*

## Setting the Start and Stop Corners for Cross-stitch

From the Selection settings pages (on the Properties Panel), you can set the start and stop points for cross-stitch segments.

### To set the start corner:

- 1 Select the Cross-stitch segment.

- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Cross-stitch property page.
- 4 In the Start Corner list, choose the corner where you want the stitching to begin.
- 5 Press **Enter** to apply the change.

### To set the start corner using the Properties bar:

- 1 Select the Cross-stitch segment.
- 2 In the Start Corner list, choose the corner where you want the stitching to begin.

### To set the stop corner:

- 1 Select the Cross-stitch segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Cross-stitch property page.
- 4 In the Stop Corner list, choose the corner where you want the stitching to end.
- 5 Press **Enter** to apply the change.

### To set the stop corner using the Properties Bar:

- 1 Select the Cross-stitch segment.
- 2 In the Stop Corner list, choose the corner where you want the stitching to end.

## Pull- and Push Compensation

### Adjusting Pull compensation

You can adjust the pull-compensation in your design. You use the settings in the Pull Comp property page to adjust the pull-compensation. Choose from None, Absolute, Percentage, and Advanced.



*None, Absolute, Percentage and Advanced pull-compensation*

### To adjust the pull-compensation:

- 1 Select the Satin segment.
- 2 On the Selection settings panel, click the Pull Comp  tab.
- 3 Select one of the following options:
  - ◆ None. Makes no adjustments to pull-compensation.
  - ◆ Absolute. Enter the amount of absolute pull-compensation in the value box.
  - ◆ Percentage. Enter the percentage in the value box and, if necessary, enter the maximum value of pull comp. in the Maximum range box.
  - ◆ Advanced (Not available to all levels of the software): Choose one of the following options:

To do this	Do this
Adjust the horizontal pull-compensation	Enter a value in the x: box
Adjust the vertical pull-compensation	Enter a value in the y: box
Combined horizontal and vertical pull-compensation	Enter values in both the x: and y: boxes

- ◆ Side A and Side B (Not available to all levels of the software). Click Side A or Side B to specify which side of the segment you want to add pull-compensation.
- 4 Press **Enter** to apply the change.  
*You see the segment altered accordingly.*

## Push compensation for Satin Columns

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 (inches or mm) from the ends of the column.

Access this feature by selecting the Push comp tab on the Satin Path selection settings.

### To adjust the push-compensation:

- 1 Select the Satin segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Push Comp  tab to select that property page.
- 4 Select one of the following options:
  - ◆ None. Makes no adjustments to push-compensation.
  - ◆ By number of lines. Enter a number of lines to be removed from the segment in the value box.
  - ◆ By distance. Enter a value for the distance to be left between the stitching and the edges of the segment.

## Push compensation for Complex Fills

During sewing, the pressure from the stitches in complex fill segment can cause the stitches to move towards either end of the segment, and go beyond the outline of that segment. Push compensation is a setting that counteracts this effect.

When you apply the Push compensation setting, stitches are automatically removed at the ends of the complex fill shape to compensate for this effect. The reduction of stitches can be based either on the number of lines of stitches to remove or by shifting the stitches inward from the outline by a specified distance.

### To add Push compensation to Complex fill segments:

- 1 Select a Complex fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Push Comp  tab to select that property page.
- 4 Select one of the following options:
  - ♦ **None.** Makes no adjustments to push-compensation.
  - ♦ **By number of lines.** If this option is chosen, enter a number of lines to be removed from the segment in the “By number of lines” field.
  - ♦ **By distance.** Enter the distance of the compensation in the “By distance” field.
- 5 Choose the end (or ends) of the Complex fill segment that Push compensation will be applied to:
  - ♦ Both.
  - ♦ End A.
  - ♦ End B.
- 6 **Shape modification:** Choose either Automatic or Manual (Automatic is the default setting).

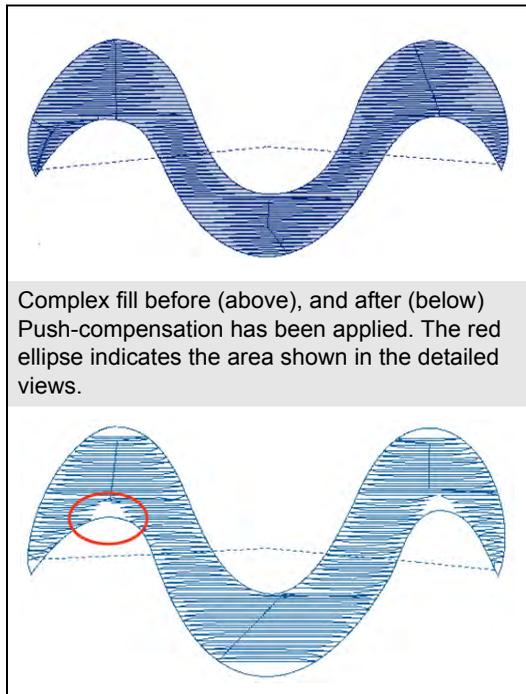
- 7 Shape modification length:** Active only when “Manual” is chosen above. Enter a linear distance; this will determine the length along the fill segment’s outline to which the Shape modification will apply.



Please refer to the section below, “Concerning the shape modification length” for a further explanation of this setting.

### Concerning the “Shape Modification Length”

In cases where the outline of the complex fill shape has significant indentations (for example, the “peaks” (maxima) and “troughs” (minima) in the following image), the Push-compensation must take these into account.

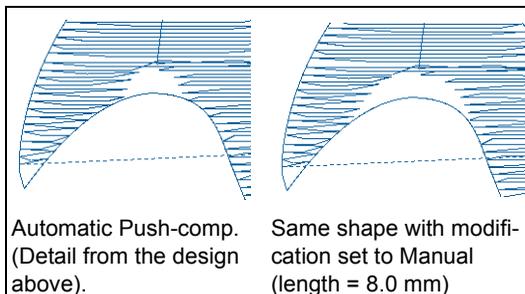


In situations like this, the compensation cannot simply ‘remove’ entire lines of embroidery; compensation can only be applied

“locally” - that is, in the area immediately adjacent to the maximum or minimum point. The Push-compensation function modifies the outline of the shape of the effective outline, indenting it to remove stitches. This depth of the indentation will depend on the number of lines or distance that has been set in the Push-comp. properties page.

This compensation will only be applied to a certain length along the outline, on either side of the minimum or maximum; this is called the “Shape Modification Length.” By default, the length will be calculated automatically when Push-compensation is applied; in most cases, this will give good results.

However, if applying Automatic Push compensation does **not** give the desired result, you can switch the Shape modification setting to Manual, and then enter a set Shape Modification Length in the box.



## Underlay Properties

### Selecting the Underlay Type

You can select underlay types for various types of stitches. Choose from Contour, Lattice, Parallel, Perpendicular, Zig-zag, or Center Run.

You can combine underlay types to get maximum coverage.



Note, however, that not all types of underlay can be applied to all stitch segment types; for example, Center Run underlay only applies to satin columns.

#### To select an Underlay type:

- 1 Select the segment.
- 2 In the Selection Settings panel Select the Underlay tab.
- 3 In the Underlay area, select the underlay type(s) you want: Contour, Lattice, Parallel, Perpendicular, Zig-zag, or Center Run.
- 4 Adjust any of the other settings. Refer to the related procedures for more information.

### Setting the Underlay Sewing Sequence

When you have chosen to combine more than one underlay type in your embroidery segment, you can also set the order in which the different underlay types are sewn.

#### To set the underlay sewing sequence:

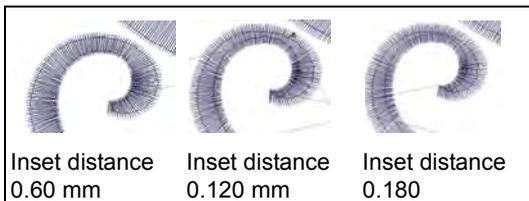
- 1 Select the segment.
- 2 In the Properties panel, choose Selection Settings and click the Underlay  tab.

*You see the underlay properties.*

- 3 Using the check boxes, select two or more underlay types.
- 4 Uncheck the Use Default Sequences box.
- 5 For each type of underlay selected, choose a number from the drop-down lists in the Sequence area.

## Underlay Inset Distance

You can change the inset distance of certain types of Underlay. Tajima DG16 by Pulse calculates the inset distance (the distance the underlay stitches are placed from the edge of the top stitching.) Inset distance changes the amount of underlay coverage. The smaller the inset distance, the more coverage you have.



### To change the inset distance:

- 1 Select the segment.
- 2 In the Properties panel, choose Selection Settings and click the Underlay  tab. *You see the underlay properties.*
- 3 Select the underlay type: Contour, Lattice, Zig-zag, Parallel, or Perpendicular.



You can combine underlay types to get maximum coverage.

- 4 In the Inset A box, enter the amount of distance you want.

*Enter a zero value if you want to place the underlay directly on the edge of the segment. The default is 0.6 mm.*



Through the Underlay Properties page, you can set different inset distances for each type of underlay used.

## Adding Lines to Perpendicular Underlay

When you select perpendicular underlay, you can set the inset distance and increase the number of perpendicular lines.

### To increase the number of lines:

- 1 Select the segment.
- 2 In the Properties panel, choose Selection Settings and click the Underlay  tab. *You see the underlay properties.*
- 3 Check the box to select Perpendicular.
- 4 In the Number of Lines box, enter the number of perpendicular lines you want.

## Setting Underlay Density

You can specify the density for underlay stitches. Like top stitches, underlay density is measured in embroidery points (pts) and stitches per inch (spi). In embroidery points, you measure the distance between stitches. In stitches per inch, you determine the number of stitches per inch.

### To set the underlay density:

- 1 Select the segment.
- 2 In the Properties panel, choose Selection Settings and click the Underlay  tab. *You see the underlay properties.*

- 3 Select the underlay type: Contour, Lattice, ZigZag, Parallel, or Perpendicular.



You can combine underlay types to get maximum coverage.

- 4 In the Density (+/-) box, enter the density value in pts.



Through the Underlay Properties page, you can set different densities for each type of underlay used.

## Specifying the Underlay Stitch Length

You can specify the stitch length for your underlay stitches. You can increase or decrease the length as required.

### To specify the underlay stitch length:

- 1 Select the segment.
- 2 In the Properties panel, choose Selection Settings and click the Underlay  tab.  
*You see the underlay properties.*
- 3 In the Underlay area, select the underlay type: Contour, Lattice, Zig-zag, Center Run, Parallel, or Perpendicular.



You can combine underlay types to get maximum coverage.

- 4 In the Stitch Length box, enter the stitch length that you want for your underlay stitches.



Through the Underlay Properties page, you can set different stitch lengths for each type of underlay used.

## Differential Inset Values for Contour Underlay

For contour underlay, it is now possible to set a different amount of offset from each side of the segment.



Differential inset is only applicable to stitch segments of the column type (that is, those created with the Steil, Satin Path, Column or Enhanced Column tools); it will not be available for fill segments (Complex Fill, Radial fill, etc.).

### To set a differential inset:

- 1 Select the segment.
- 2 In the Properties panel, choose Selection Settings and click the Underlay  tab.  
*You see the underlay properties.*
- 3 In the Underlay area, check the Contour box.  
*The underlay properties, including the Inset fields, will become editable.*

Contour	
Contour underlay	<input checked="" type="checkbox"/>
Stitch length	2.5 mm
Inset A	0.6 mm
Inset B	0.6 mm
Drop run stitch type	None
Chord gap	0.3 mm
Repeats	1
Minimum stitch len...	0.5 mm

- 4 Type the first inset distance in the Inset A field.
- 5 Type the second inset distance in the Inset B field.

## Number of Lines for Center Run

The center run underlay type consists of underlay stitches running down the center of a Column stitch segment. You can change the number of times the underlay line is stitched (default is two) in the Selection settings panel.

### To change number of lines of Center Run Underlay:

- 1 Select a Satin Column segment.
- 2 In the Properties panel, click the Underlay  tab.  
*You see the underlay properties.*
- 3 Check the box to select Center Run.
- 4 In the Number of lines column, type in the desired number of lines of Center Run underlay.

## Optimize Center Run

In the properties panel for Center Run Underlay, there is an option called **Optimize Center run**. When this option is checked, the sewing order of the selected satin column with center run underlay will be optimized so that it is completed using the minimum number of stitches. Depending on the segment, this may involve the underlay being sewn out piece by piece, alternating with segments of top stitching.

If Optimize Center Run is *not* checked, the Center Run underlay will always sew all at once, followed by the top stitches; this is the default setting.

## Branching Underlay Layout

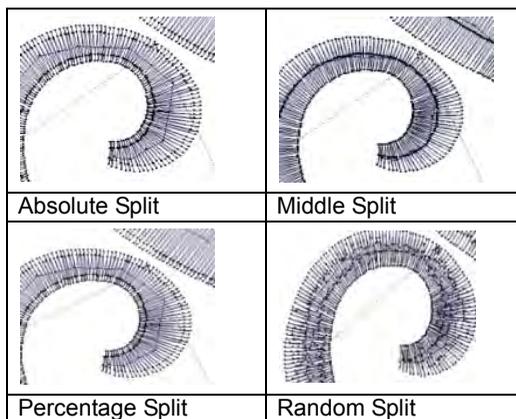
You can now specify how the underlay is sewn in branched segments through the Underlay Properties page.

From the Branching Underlay Layout drop-down list choose **All at Once** to sew all the underlay first, or **Piece by Piece** to sew each piece of underlay in a branched segment separately. Sewing the underlay piece by piece is useful when the branched segments are disconnected such as the dot of a lowercase “i”.

## Quality Control

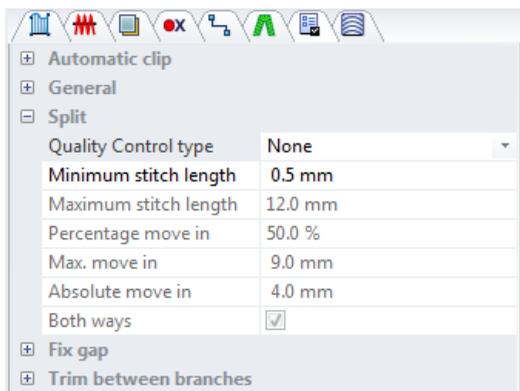
### Split Settings

Using the settings in the Quality Control property page, you can enhance and improve the stitches you generate. The quality control types include None, Absolute Split, Middle Split, Percentage Split, and Random Split. Other quality control settings include Min Stitch Length, Max Stitch Length, Critical Zone, Split Both Sides, Percentage Split, Max Split Distance and Overlap Lines.



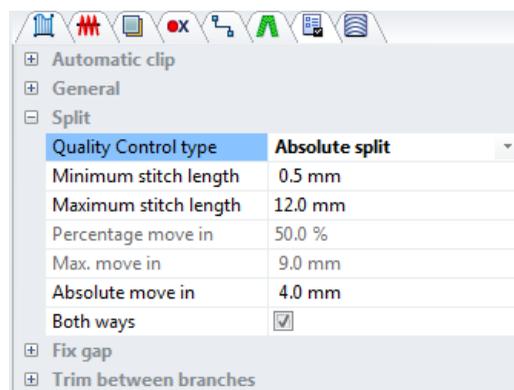
### Adjusting the split settings:

- 1 Select the segment (satin or fill).
- 2 On the Properties panel, click the Quality Control  tab.
- 3 In the Quality Control Type list, select one or more of the following quality control types and proceed:
  - ♦ **None.** This quality control type ensures that every stitch is at least the minimum stitch length apart; otherwise, it will not do any quality control on the output.



- ♦ In the Min. Stitch Length box, enter the value of the minimum stitch length. The engine will filter any stitches shorter than the Min. Stitch Length.
- ♦ To avoid thread breaks or other sewing complications when working with Fills, select Critical Zone and enter the Critical Zone distance to remove stitches in a narrow area.
- ♦ In the Overlap lines box, enter the number of times you want the lines to overlap. Whenever the fill engine detects a need to do overlap, it will use this setting to determine how many lines of overlap it should add.

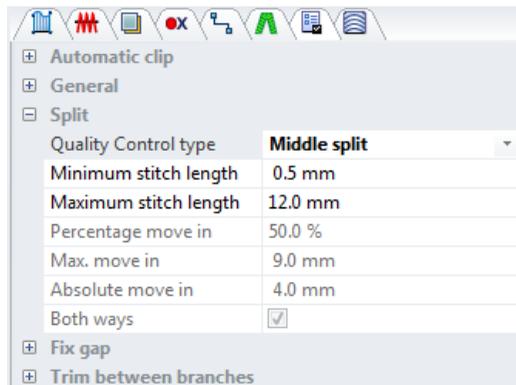
- ♦ In the Run Stitch Length box, enter a stitch length value to control traveling run stitches.
- ♦ In the Run Max Chord Gap Distance box, enter a maximum chord gap distance value to control traveling run stitches. A chord gap is a gap between the path a traveling run stitch is following and the actual stitches when traveling around a curve. A large chord gap can cause stitches to stick outside of the top stitching. This setting adds additional stitches to smooth curves and reduce stitches sticking outside.
- ♦ **Absolute Split.** If two stitch points are more than Maximum Stitch Length apart, this quality control type will generate a stitch at an Absolute Split Distance from both end points. If the Absolute Split Distance is too much, the stitch is split at the middle.



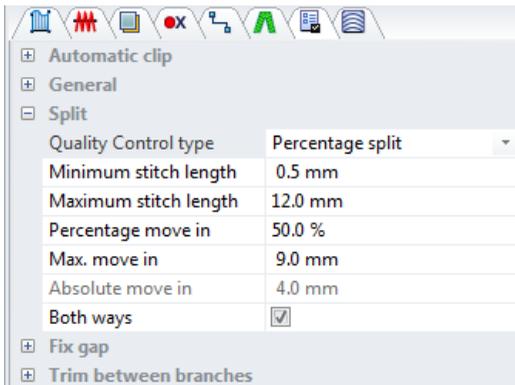
- ♦ In the Min. Stitch Length box, enter the value of the minimum stitch length. The engine will filter any stitches shorter than the Min. Stitch Length.
- ♦ In the Max. Stitch Length box, enter the value of the maximum stitch

length. The engine will filter any stitches larger than the Max. Stitch Length.

- ♦ In the Abs. Split Distance box, enter the value of the absolute split distance.
- ♦ To add stitch penetration in both directions and increase your stitch count, select Split both sides.
- ♦ To avoid thread breaks or other sewing complications when working with Fills, select Critical Zone and enter the Critical Zone distance to remove stitches in a narrow area.
- ♦ In the Overlap lines box, enter the number of times you want the lines to overlap. Whenever the fill engine detects a need to do overlap, it will use this setting to determine how many lines of overlap it should add.
- ♦ In the Run Stitch Length box, enter a stitch length value to control traveling run stitches.
- ♦ In the Run Max Chord Gap Distance box, enter a maximum chord gap distance value to control traveling run stitches. A chord gap is a gap between the path a traveling run stitch is following and the actual stitches when traveling around a curve. A large chord gap can cause stitches to stick outside of the top stitching. This setting adds additional stitches to smooth curves and reduce stitches sticking outside.
- ♦ **Middle Split.** If two stitch points are more than Max. Stitch Length apart, Middle Split will generate a stitch at the middle between those two points.

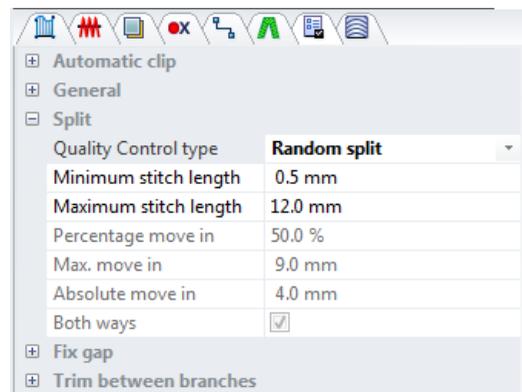


- ♦ In the Min. Stitch Length box, enter the value of the minimum stitch length. The engine will filter any stitches shorter than the Min. Stitch Length.
- ♦ In the Max. Stitch Length box, enter the value of the maximum stitch length. The engine will filter any stitches larger than the Max. Stitch Length.
- ♦ To avoid thread breaks or other sewing complications when working with Fills, select Critical Zone and enter the Critical Zone distance to remove stitches in a narrow area.
- ♦ In the Overlap lines box, enter the number of times you want the lines to overlap. Whenever the fill engine detects a need to do overlap, it will use this setting to determine how many lines of overlap it should add.
- ♦ **Percentage Split.** If two stitch points are more than Max. Stitch Length apart, this Quality Control Type will generate a stitch at a percentage of the stitch length from both end points. If the percentage of the stitch length is greater than the Max. Split distance, the stitches get placed at a specified Max. Split Distance from both end points.



- In the Min. Stitch Length box, enter the value of the minimum stitch length. The engine will filter any stitches shorter than the Min. Stitch Length.
- In the Max. Stitch Length box, enter the value of the maximum stitch length. The engine will filter any stitches larger than the Max. Stitch Length.
- To add stitch penetration in both directions and increase your stitch count, select Split both sides.
- In the Percentage Split Distance box, enter the value of the percentage split distance.
- In the Max. Split Distance box, enter the value of the maximum split distance.
- To avoid thread breaks or other sewing complications when working with Fills, select Critical Zone and enter the Critical Zone distance to remove stitches in a narrow area.
- In the Overlap lines box, enter the number of times you want the lines to overlap. Whenever the fill engine detects a need to do overlap, it will use this setting to determine how many lines of overlap it should add.

- In the Run Stitch Length box, enter a stitch length value to control traveling run stitches.
- In the Run Max Chord Gap Distance box, enter a maximum chord gap distance value to control traveling run stitches. A chord gap is a gap between the path a traveling run stitch is following and the actual stitches when traveling around a curve. A large chord gap can cause stitches to stick outside of the top stitching. This setting adds additional stitches to smooth curves and reduce stitches sticking outside.
- **Random Split.** If two stitch points are more than Max. Stitch Length, Random Split will generate as many random stitches as necessary in between those two points to ensure nothing is more than Max. Stitch Length apart.



- In the Min. Stitch Length box, enter the value of the minimum stitch length. The engine will filter any stitches shorter than the Min. Stitch Length.
- In the Max. Stitch Length box, enter the value of the maximum stitch length. The engine will filter any

stitches larger than the Max. Stitch Length.

- ♦ To avoid thread breaks or other sewing complications when working with Fills, select Critical Zone and enter the Critical Zone distance to remove stitches in a narrow area.
- ♦ In the Overlap lines box, enter the number of times you want the lines to overlap. Whenever the fill engine detects a need to do overlap, it will use this setting to determine how many lines of overlap it should add.
- ♦ In the Run Stitch Length box, enter a stitch length value to control traveling run stitches.
- ♦ In the Run Max Chord Gap Distance box, enter a maximum chord gap distance value to control traveling run stitches. A chord gap is a gap between the path a traveling run stitch is following and the actual stitches when traveling around a curve. A large chord gap can cause stitches to stick outside of the top stitching. This setting adds additional stitches to smooth curves and reduce stitches sticking outside.

*You see the segment altered accordingly.*

## Cross Method Settings

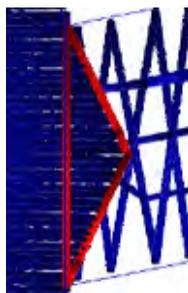
Cross Method is a specialized quality control setting, which applies only to branched Satin segments with Automatic overlap applied.

The “Cross Method” setting determines the route for travelling stitches that are required to cross the branched segment. In certain cases (e.g., where small lettering is involved), these stitches can negatively affect sewing quality.

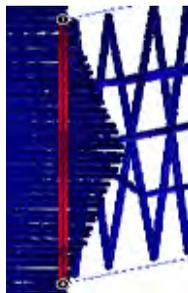
The Cross Method gives you the option of controlling travelling stitches, if required, so that they avoid the automatic overlap.

There are three Cross Method Options:

**Triangle:** The triangle method causes the travelling stitches to sew in a triangular shape, so that they are placed just past the overlapping satin stitches of the previous satin in the branched segment; see the red stitches in the image below.



**Straight:** The travelling stitches cross over at the base of the overlapping stitches, parallel to the edge of the previous satin; they are comprised of run stitches. The path taken in this case is shown by the red stitches in the image below.



**Satin:** Similar to the Straight method, but the travelling stitch is a satin stitch instead of a Run.

### To adjust Cross Method settings:

- 1 Select a Branched Satin segment.
- 2 In the Properties panel, select the Quality

Control  tab.

*You see the appropriate property page.*

- 3 Under General settings, select one of the following from the Cross Method field:
  - ◆ Straight.
  - ◆ Triangle.



If the triangle option is selected, the Triangle distance field will become active. This parameter defines the distance from the base of the triangle to the apex. You can adjust this figure up or down, as required.

- ◆ Satin.

*The travelling stitches will be generated accordingly.*

## Applying Automatic Clip

This is a setting found under the Quality Control section of the Segment Settings. It allows you remove the underlying stitches from overlapping segments, after stitches have been generated.



There are two types of Automatic Clip, "Clip stitches" and "Clip stitches below" Choosing "Clip stitches" will remove the part of the selected segment which is covered by the fill segment on top of the selection.

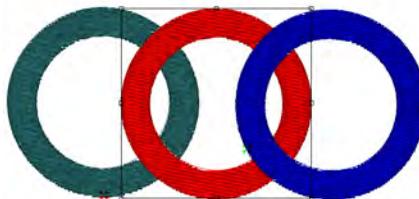
"Clip stitches below" removes that part of the underlying fill segment which is overlapped by the selected segment.



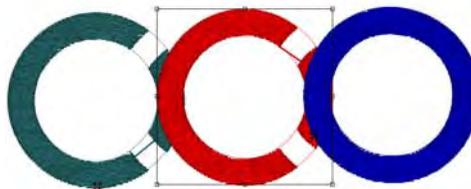
For a Complex fill that overlaps other Complex fill segments both above and below, it is possible to select both.

### To use Automatic Clip:

- 1 Select a complex fill segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Quality Control tab.  
*You see the Quality Control property page.*
- 4 Select either Clip Stitches, Clip stitches below, or both.  
*The overlapped stitches will be removed from your design.*



In this set of embroidery segments, "Clip stitches" and "Clip stitches below" have been applied to the center (red) complex fill segment. Below, the segments shifted to show how the stitches were removed.



## Overlap Distance Setting

There is an option Automatic Clip to allow a specified amount of overlap to be retained in the clipped complex fill segment. This retained overlap allows you to ensure that no gaps appear between the adjacent Complex Fill segments in the design.

Add overlap by typing a value in the “Overlap distance” box in the Automatic Clip area of the Quality Control page.

## Automatic Overlap for Branched Satin Segments

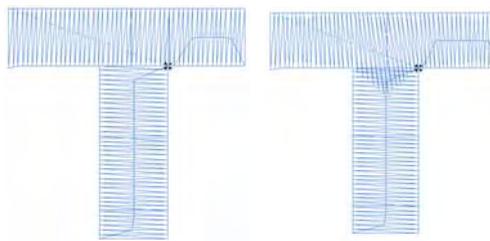
There is a setting on the Segment Setting Quality control page called Automatic Overlap. You can set a certain amount of overlap for branched segments; this overlap will be generated automatically by the software when stitches are generated.

### To use automatic overlap:

- 1 Select the branched satin segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Quality Control tab.  
*You see the Quality Control property page.*
- 4 Check the Automatic overlap checkbox.
- 5 Type a value in the Overlap distance box (The Overlap distance defaults to 2.0 mm/ 0.08 in.).

- 6 Press **Enter** to apply the change.

*Your branched segment is altered accordingly.*



Branched segment,  
zero overlap

Branched segment, 0.2  
in. overlap

## Fix Gap Setting

Fix Gap is a satin segment setting that becomes available when Automatic Overlap is activated. This function adds extra stitches to the adjoining ends of branched segments. These stitches are intended to cover areas that may show a gap when stitches are sewn at the same angle from two different directions.

### The following settings can be adjusted for Fix Gap:

- **Fix Gap:** Check this box to enable the setting.
- **Repeats:** The number of repeats lines of stitches being used to cover the gap; default is 1.
- **Angle Tolerance:** The maximum angle between the satin lines to that will activate the function. The default is 20 degrees.

## Trim Between Branches

Normally, if a branched segment has "islands" (that is, portions of the segment that are not connected to the rest by outline - the dot in a

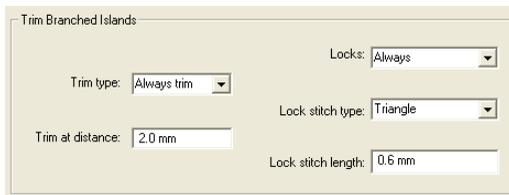
letter "i" for example), then normal stitch generation will join this island with a running stitch.

However, with the Trim Between Branches setting, you can cause the stitch generation to automatically add a trim within the segment, so you will not have to do it manually.

You can also set your preferences for lock stitches around the trims in you branched satin segment using this dialog.

### To set trims between branches:

- 1 Select the branched satin segment.
- 2 Open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Quality Control tab.  
*You see the Quality Control property page.*
- 4 In the trim between branches area of the Quality Control page, select one of the following from the trim type field:



- ◆ Never Trim
  - ◆ Always Trim; a trim will be inserted for any gap greater than 5 pts (0.5 mm));
  - ◆ Trim at; you can enter your own value for the trim tolerance in the dialog. Any gap larger than this value will generate a trim.
- 5 Press Enter to apply the changes.

### To add lock stitches around trims:

- 1 In the trim between branches area of the Quality Control page, select one of the following from the Locks field.

- ◆ Always (a lock stitch will be placed at all branch points).
  - ◆ Around trims (a lock stitch will be placed on each side of all trims).
  - ◆ Never (no lock stitches will be generated).
- 2 Choose one of the following from the Lock Stitch Type field:
    - ◆ Basic
    - ◆ Line
    - ◆ Triangle
    - ◆ Diamond
    - ◆ Input a value into the Lock Stitch Length field (default value is 0.6 mm).
  - 3 Press **Enter** to apply the changes.

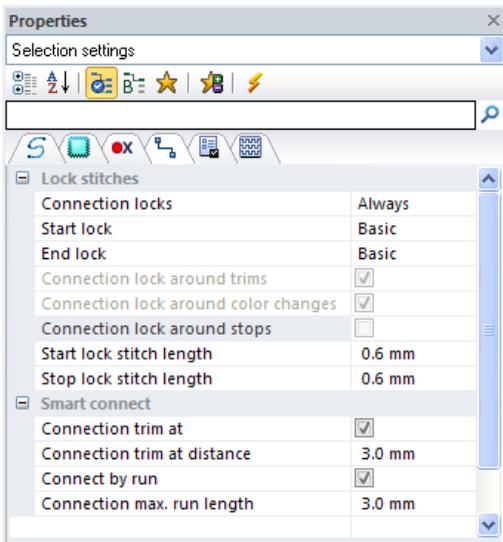
## Connections Settings

Smart Connections is a tool that automatically inserts stitches, jumps and runs between segments. Smart Connections simplifies the digitizing process by applying the proper connection method, based on the distance between the segments.

The “Trim at” setting inserts trims when the distance between segments is greater than the value entered in the box. The “Connect by run” setting will connect segments with run stitches, and will use the stitch length entered in the Maximum length setting. Lock stitches can also be automatically inserted around trims, color changes and stops.

### To apply Connections settings:

- 1 Select two or more segments.
- 2 In the Selection Settings panel, click on the Connections tab.  
*You see the Connections settings.*

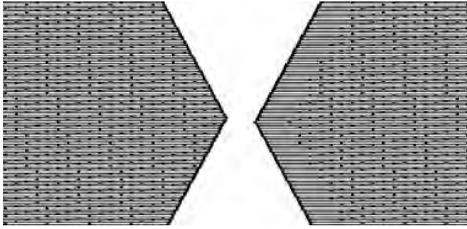


- 3 In the Connection locks select one of the following options:
  - ♦ **Never** (lock stitches will not be inserted around connections).
  - ♦ **Sometimes** (lock stitches will be added, but only where specified – see step 4), following).
  - ♦ **Always** (locks will be added around all connections).
- 4 If the **Sometimes** option is selected above, you will be able to choose the circumstances in which lock stitches will be placed:
  - ♦ Connection lock around trims.
  - ♦ Connection lock around color changes.
  - ♦ Connection lock around stops.
- 5 In the Lock Stitches area, select one of the do the following:
  - ♦ In the **Start lock** list, select the type of start lock stitch you want to apply:
    - ♦ None
    - ♦ Basic
    - ♦ Line
    - ♦ Triangle

- ♦ Diamond
- ♦ In the **Start lock stitch length** field, enter the stitch length for the lock stitch.
  - ♦ In the **End lock** list, select the type of end lock stitch you want to apply:
    - ♦ None
    - ♦ Basic
    - ♦ Line
    - ♦ Triangle
    - ♦ Diamond
  - ♦ In the **End lock stitch length** field, enter the stitch length for the lock stitch.
- 6 In the Smart Connections area, do the following to apply a trim in the smart connection:
    - ♦ Check the **Connection trim at** box.
    - ♦ Type a value in the **Connection trim at distance** field to set the minimum distance at which a trim will be inserted.
  - 7 In the Smart connections area, do the following to connect the selected segments with run stitches:
    - ♦ Check the **Connect by run** box.
    - ♦ In the **Connection max. run length** field, set the maximum distance between segments to be connected by a run.

## Removing Stitches in a Narrow Area with Critical Zone

To help avoid thread breaks or other sewing complications when you work with Fills, you can remove stitches in a narrow area. For example, to prevent stitches from being sewn 10 pts from the edge of a Fill, you would enter 10 pts in the Critical Zone Distance text box.



No Critical Zone and Critical Zone at 40 pts.

### To remove stitches using Critical Zone:

- 1 Select the segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Quality Control property page, and select Critical Zone.
- 4 In the Critical Zone Distance text box, enter the distance for the area.
- 5 Press **Enter** to apply the change.

## Commands Properties

### Machine Commands

You can add specific machine commands to your design such as stops, jumps, and changeovers. The commands may be added either to the Start or End of the segment, by selecting the corresponding field in the Selection settings page.

#### To add a machine command:

- 1 Select the segment.
- 2 On Properties panel–Selection Settings page, click the Commands  tab.

- 3 In the Start Command area, click to the right of the field to open the drop down list of commands.

By default, only the most commonly-used commands (e.g. Stop, Trim) will appear on the drop-down list, initially.



To access other commands, select “More” from the list; this will display the Choose Command dialog. Select a command, and then click OK to close the dialog. The selected command will now be added to the list in the Command field.

- 4 From the list (or the Choose Command Dialog), select the desired command:
  - ◆ Trim to trim the thread.
  - ◆ Trim-Jumps to trim the thread based on the Number of jumps for a trim setting found in the Machine Formats dialog. For more information on Machine Formats, see "Using Machine Formats".
  - ◆ Borer On to start using a boring device.
  - ◆ Borer Off to stop using a boring device.
  - ◆ Two Stops to insert two stops at the same location. Used for appliqués, the first command stops the machine and the second stop permits a color change.
  - ◆ Fast to increase the speed of the machine.
  - ◆ Slow to decrease the speed of the machine.
  - ◆ Stop to stop the machine.
  - ◆ End to indicate the end of a design.
  - ◆ Start to indicate the beginning of a design. (Not supported by most machine formats).
  - ◆ Jump to insert a command to jump creating a stitch with the needle up.
  - ◆ Blank to insert a stitch with no length.
  - ◆ No Command to insert a normal stitch.
  - ◆ Color Change to use another needle.
  - ◆ Changeover to use a laser cutter.

- ♦ Changeover Movement to use a laser cutter; however, a movement occurs before the laser punctures the fabric.
- ♦ Sequin Start to start the sequin activation. After this command, every Drop Sequin command generated will drop a sequin.
- ♦ Sequin End to end the sequin activation. After this command, the Drop Sequin command will no longer drop sequins.
- ♦ Drop Sequin to signal the dropping of a sequin. You can view this command when you navigate through a sequin segment's stitches.
- ♦ Frame Out to move the embroidery machine's frame out while making adjustments to the item being embroidered. The Frame Out command is ideal when placing appliqué on a garment.
- ♦ Three Stops inserts three stop commands at the same place.



You can also add commands directly to your design from the Start Commands and Stop Commands lists on your Properties Bar.

- 5 To set the End command, repeat Steps 4-5 in the End command area.

## Moving the color change to the Connection end

By default, the color change in the connection of two segments will occur at the beginning of the connection between them.

In some cases (for example, in designs that include cording), it can be useful to move the color change so that it occurs at the end of the connection, rather than the beginning. Moving the color change to the connection end

effectively interrupts the sew-out after the connection (jump stitches) but before the start of the current segment.

To change the location of the color change, go to Selection settings, click the Commands tab, and check the "Move color change command to connection end" box. You will notice that the color of the jump stitches changes to match that of the previous segment.



Note that this command setting is available for all kinds of segments created with the punching tools.

## Setting the machine speed (RPM) of a segment

There is an option to set the sewing speed of an individual segment to be different from the RPM of the design as a whole.

By default, the RPM of all segments will be set at the same speed, which is determined by the RPM setting in the Production Panel of the Machine Properties page. However, with this option, you can select an individual segment, and set its speed individually.

### To set an RPM segment speed:

- 1 Select a segment.
- 2 In the Properties - Selection settings panel, select the Commands  tab.
- 3 In the RPM area, check the "Individual" check box.  
*The RPM field becomes active.*
- 4 Enter the machine speed in the RPM field.

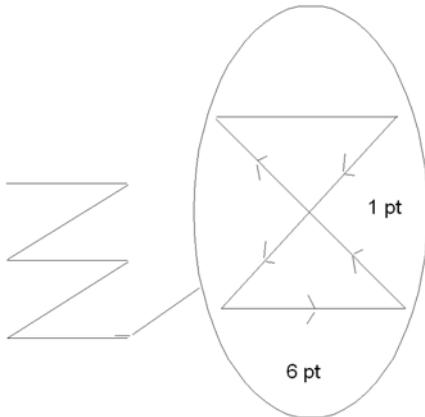
## Applying Lock Stitches

You can apply predefined and custom lock stitches using the Commands property page. You can apply lock stitches to the start and

end of segments. You can also specify the length of start and end lock stitches or create custom lock stitches. For more information on creating custom lock stitches, see "Creating custom lock stitches".



The line (lock stitch type) adds 4 stitches in a straight line. Each stitch will match the specified lock stitch length.



*A zoomed-in view of a basic lock stitch*

### To apply a lock stitch:

- 1 Select the segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Commands property page.
- 4 In the Lock Stitch - Start list, select the type of start lock stitch you want applied to your segment:
  - ♦ None
  - ♦ Basic
  - ♦ Line
  - ♦ Triangle
  - ♦ Diamond
- 5 In the Length box for Lock Stitch - Start, enter a lock stitch length for the selected segment.

- 6 In the Lock Stitch - End list, select the type of end lock stitch you want applied to your segment:
  - ♦ None
  - ♦ Basic
  - ♦ Line
  - ♦ Triangle
  - ♦ Diamond
- 7 In the Length box for Lock Stitch - End, enter a lock stitch length for the selected segment.
- 8 Press **Enter** to apply the change.

### To apply a lock stitch using the Properties Bar:

- 1 Select the segment.
- 2 In the Start Lock list, select the lock stitch you want to use.
- 3 In the End Lock list, select the lock stitch you want to use.
- 4 Press **Enter** to apply the change.

## Changing a Thread Color Number

You can change the thread color of a design by using the property pages rather than the thread palette at the bottom of the Tajima DG16 by Pulse workspace. The first color in the palette is Thread 1, the second color in the palette is Thread 2, and so on.

### To change a thread color number:

- 1 Select the segment.
- 2 If it is not already displayed, open the Selection Settings panel.  
*You see the Selection settings pages.*
- 3 Click the Commands property page.
- 4 In the Thread list, select the thread number.

- 5 Press **Enter** to apply the change.  
*You see the segment altered accordingly.*



# CHAPTER 12

## Using Wizards and Advanced Tools

You can easily and efficiently create unique embroidery designs using Tajima DG16 by Pulse's wizards and other advanced tools, such as styles and templates.

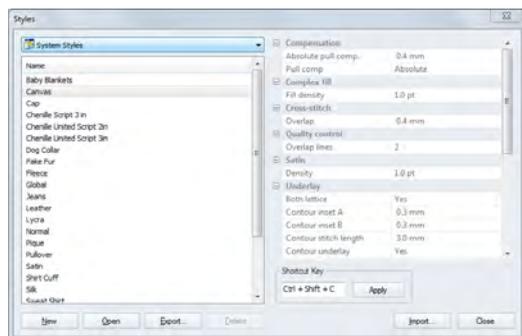
*Topics covered in this chapter:*

- Creating styles and templates.
- Working with presets.
- Merging stitch and outline files into an open design.
- Using the various Wizard tools: Autodigitizing, Image Vectorizer, and Cross Stitch.
- Using the WordIt tool to create shapes filled with text.
- Inputting Emojis into designs.

# Working with Styles

## Creating Styles

You can create Styles to apply a collection of settings to designs. Styles are useful when you use a collection of settings frequently and you want to apply these settings without making changes using the Segment Settings property pages for each design. Your Embroidery software comes with a variety of Styles that apply a collection of settings meant for specific fabric types. These styles are also known as Recipes. You will find these pre-installed styles listed in the Name drop-down list when you open the Styles dialog box.



You can also create other Styles of your own. Once you create a new Style, it is listed in the Styles dialog box with a description and style summary. Here are some ideas for reasons to create Styles:

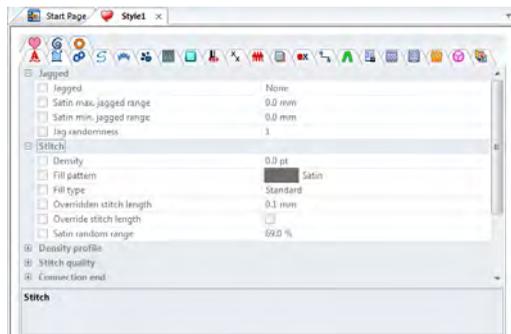
- A lettering style for a customer
- Fill effects with a specific fill pattern, density, and underlay
- Specific density setting

### To create a style:

- 1 Choose Tools—Manage—Styles.  
*The Styles manager dialog opens.*

- 2 Click the **New** button.

*A new Styles tab opens in the workspace; in this tab, you will see tabs for all your available segment settings.*

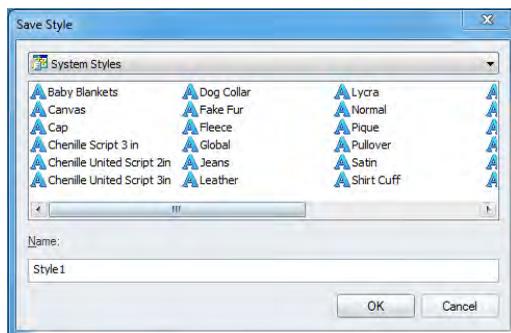


- 3 Check the boxes to activate those settings you want to add to the new style.  
*Active settings will appear in bold.*

- 4 Modify the parameters of the chosen settings; use the tabs to switch between various categories of settings.

- 5 Save the segment by clicking the Save tool, or selecting File—Save.

*You see the Save Style dialog.*



- 6 Type in a name for the style, and click OK.  
*The new style will now appear in the list of styles that can be applied.*

Notice that most System styles will have a keyboard shortcut assigned to it; pressing this sequence will apply the style to a selected segment.



For user-created styles, you can create your own shortcuts. Open the Styles manager, select a style, and then enter a keyboard combination into the Shortcut Key field. Click Apply.

## Applying Styles

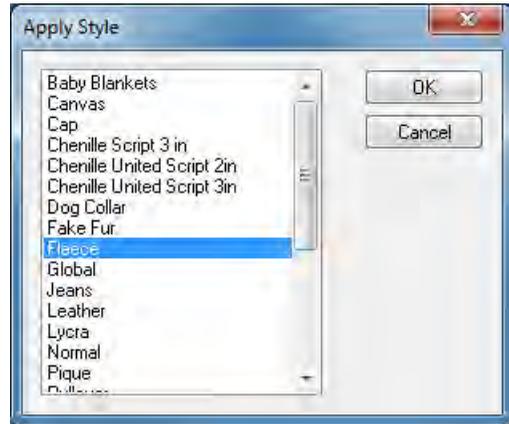
You can create Styles to apply a collection of settings to a design. The Style can then be quickly applied by pressing Ctrl+L or by using the appropriate shortcut key sequence.

Styles are used to define a collection of settings that you use often. Once you save a group of settings as a Style, it is added to the list of available Recipes for repeated use. Once a Style is created, you will be able to use it, rather than having to change settings in Segment Settings tab.

### To apply a Style:

- 1 Select the segment (or segments).
- 2 Do one of the following.
  - ◆ Press Shift + L on the menu.
  - ◆ Right-click and select Apply Style from the context menu.

*You see the Apply Style dialog.*



- 3 Select the desired style from the list.
- 4 Click OK.

*The segment will take on all the settings you defined for that Style.*

## Removing Styles

When you no longer need a particular style, you can remove it permanently from the Styles list.

### To remove a style:

- 1 Choose Tools—Manage—Styles.  
*You see the Styles dialog box.*
- 2 In the Name list, select the style name.
- 3 Click Delete.  
*A message appears asking if you are sure you want to delete the style. Click OK to proceed.*
- 4 Click Close.



Only custom styles can be deleted; system styles cannot be deleted.

# Working with Presets

## Introduction to Presets

Presets are a powerful way of associating a collection of settings with each punching tool. Each digitizing tool has a number (in some case, a large number) of settings that are associated with it. With the Run tool, for example, the run type setting allows you to create single Ply (the default), Bean and Programmed Runs. There are also other settings that control the type of stitches generated at corners (At Anchor and Chord Gap), the repeat style, the stitch length, etc.

Typically, you have a fixed set of settings that you apply to various types of run segments created in your embroidery design. For example, if you are using Programmed Runs, you may have two sets of settings: one set if you use graduated density to get the fireworks effect and one set without.

Presets allow you to associate digitizing tools with one or more set settings for the different applications you intend to create in your designs. For example, you can create a preset for Bean (for Bean segments), Fireworks (for Programmed Runs with graduated density), Chord Gap (for Run segments with Chord gap settings) and so on. These presets can be applied when creating a Run segment either from the digitizing tool, or when converting to a Run segment via the Convert To shortcut menu.

You can easily create hundreds of presets to cater to every combination of segments you plan to create. To work with presets in a design, presets need to be assigned to the design. Assigning presets allows you to work with only those presets you intend to use in a

given design. In addition, collections of presets can be saved as sets and can be loaded when you create new designs.

To set up and begin working with presets, you should know how to do the following:

- Create presets.
- Save presets in groups, or “Preset sets”
- Assign presets to use in the current design.
- Apply presets.

## Creating Presets

There are now two ways to create your own custom preset: by building the one from scratch using the Preset Manager, or by saving it from the segment settings of the current tool.

## Using the Presets Manager to create a new Preset

The Presets Manager allows you to create, assign, and modify presets for a tool, making it quicker to create segments in the styles that you require. Before you can begin assigning and applying presets to the tools, you must create styles for each tool you plan to use.

Once you create presets, you can enable them to be used in the current design. If you do not assign presets to a design, you will not be able to activate a preset for a tool.

For more information on assigning presets to a design, see “Enabling Presets.”

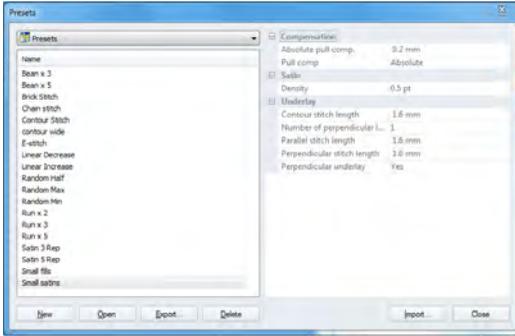


You can also save groups of presets to use in your designs. For more information, see “Saving a Group of Presets”.

### To create presets in the Preset Manager:

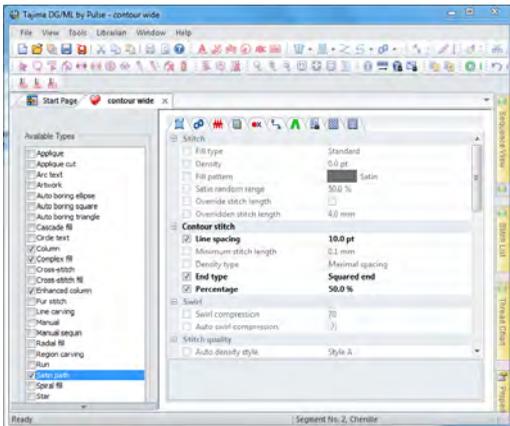
- 1 On the Manage tab, select Presets.

*You see the Presets Manager dialog.*



- 2 Click the **New** button in the Presets manager dialog.  
*A new Preset tab opens in the workspace.*
- 3 In the dialog, check the boxes to select one or more of the available stitch types you want to use for the new preset.

*Tabs containing the segment settings appear in the workspace; which types of settings are shown depends on which stitch types boxes are selected in the Available stitch types column.*



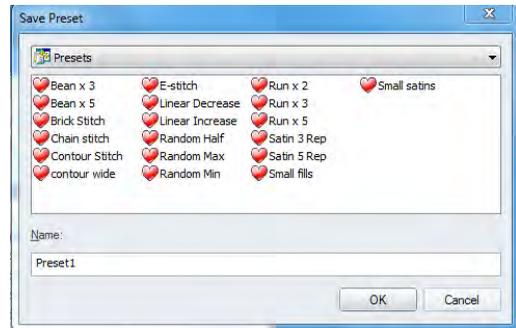
- 4 Check the boxes in the Preset segment settings pages to activate the parameters you wish to modify.  
*The Settings that are active will appear in bold.*

- 5 Modify the settings you wish to apply to the preset; use the tabs to switch between various categories of settings.
- 6 (Optional) Enter a keyboard combination in the Shortcut Key field, and click **Apply**.



This shortcut can be used to apply the Preset to individual segments in the design; note that the Preset must first be enabled in Design Properties.

- 7 When you have made all the required settings, save the preset by pressing the Save  tool or selecting File–Save.  
*You see the Save Preset dialog.*



- 8 Type in a name for the preset, and click Save.  
*Your new Preset will now be available in for applying to designs; for more information, see “Enabling Presets” and “Assigning Presets”.*

## Saving a new Preset from a Digitizing Tool

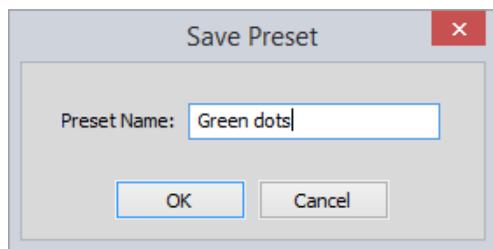
Another way to create a new preset is to digitize a segment that has the segment properties that you want in your preset, and then save those properties as a Preset. When you save it, a dialog opens that allows you to name the preset; this name will subsequently

appear on the list of presets available for that tool.

### To save a preset:

- 1 Create an embroidery segment using any of the digitizing tools.
- 2 In the Properties panel—Selection settings, adjust the settings as required.
- 3 On the toolbar, click the small down arrow to the right of the currently active tool.
- 4 Select Save preset... from the drop-down list.

*You see the save Preset dialog.*



- 5 Enter a name for the preset, and click OK. *The preset will be saved, and will subsequently appear on the list of presets available for the current digitizing tool.*

You can make the new preset available to other digitizing tools. Go to Tools -- Manage--Presets..., select the preset, and click Open. Then, check the boxes next to the other digitizing tools you want the preset to be enabled for.



## Grouping Presets

When you create several presets in Tajima DG16 by Pulse, you can save a few of the presets as a set. You can assign a saved group of presets using the new document dialog or the Document Properties panel and make this predefined group available to any design.

For more information on applying saved groups of presets to designs, see "Assigning Presets to use in the Current Design".

### To save a group of presets as a set:

- 1 On the Manage tab, select Presets.
- 2 From the Presets field at the top of the dialog, select Preset Sets.
- 3 In the Presets dialog, click New. *A new PresetSet tab opens in the workspace.*
- 4 Check the boxes that correspond to the Presets that you want to group together into a set.

To view all available presets, click the + signs next to the categories (e.g., Column, Complex fill, etc.) to expand them.



Note that if you check the box next to a category, it will select all the presets within that category.

- 5 Select File—Save. *You see the Save Preset set dialog box.*
- 6 In the File Name box, enter a name for the Preset set.
- 7 Click OK. *The Preset Set will be saved to the presets folder.*

## Enabling Presets

To apply presets to a design, you must first enable them to be used in the current design. Presets are enabled using the Design Properties panel. When Presets are enabled, a small triangle icon appears next to the tool (or tools) that the preset can apply to, indicating that presets can now be applied.

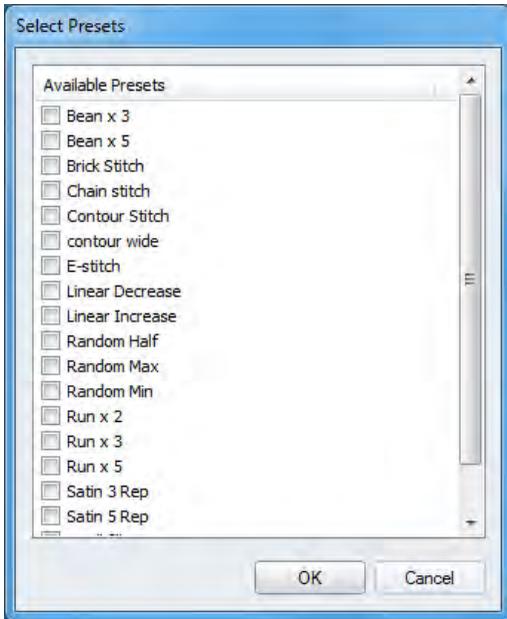
### To enable Presets in the current design:

- 1 Open the Design Properties panel.



The Design Properties opened by selecting View—Toolbars and Docking Windows—Design Properties.

- To the right of the Preset sets field, click the selection button .
- You see the Select Presets list.



- Check the boxes next to the desired presets.
- Click OK.  
*The assigned presets are now available to use in your current design; menus will appear in the toolbars that are affected by the assigned presets (see “Applying Presets”).*

### To enable a predefined group of Presets:

- Open the Design Properties panel.



The Design Properties opened by selecting View—Toolbars and Docking Windows—Design Properties.

- In the Preset sets list, click the down-arrow to display the list of sets.  
*You see a list of Preset sets.*
- Do one of the following:
  - Select Basics to assign the basic set of presets.
  - Select Custom to assign the Custom presets.
  - Select None to remove all the assigned presets.



If you have made any custom Preset sets, these may be selected from this list.

*The tool presets associated with the loaded set that you selected will become available.*

### To assign a set of Presets using the New Document dialog:

- From the menu bar, select File—New.
- In the New Document dialog, click New Design Wizard.  
*You see the New Design Wizard.*
- From the drop-down list in the Recipe field, select the recipe.
- Click Next.  
*You see the machine format page.*
- In the Machine Format list, select the machine format that you want applied to the design when created.
- Click next.  
*You see the tool presets page.*



- 7 Select a tool preset and click Next.  
*You see the set start/stop page.*
- 8 Select the start and end locations for design:
  - ♦ Position in the center of the design.
  - ♦ Positioned with the first and last stitches of the design.
  - ♦ Position the first stitch at the center of the design, and the end at the last stitch.

*For more details on the start/stop locations, see “Setting the Start/End Locations” in the “Working with Machines” section of this guide.*
- 9 Click Next.  
*You see the Finish the Design page.*
- 10 (Optional) Do one of the following:
  - ♦ Save as a favorite.
  - ♦ Set as default.



If you check neither of these boxes, the settings you chose will be applied to this design only.

- 11 Click Finish.  
*You see a new design window.*

## Disabling Presets

If you want to not have presets enabled for the design, they can easily be removed. Once you remove an assigned preset, you can no longer activate that preset for a tool in the design.

### To remove all presets:

- 1 Open the Design Properties panel.
- 2 In the Preset set field, click the down-arrow.  
*You see a list of options.*
- 3 Select None.  
*Presets will no longer be applicable to the tools.*

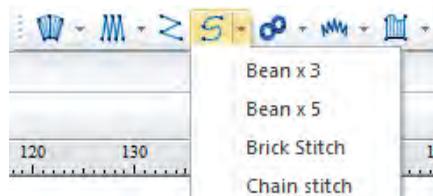
## Applying Presets

Once presets are enabled in a design, you can apply them for specified tools to segments. If you do not enable presets in the current design, you will not be able to apply presets and have them available in the tools.

When you select a preset for a tool, you will override the global recipe used in the design and the preset will remain in the design. To restore the original styles for a tool, you can choose to apply No Presets.

### To apply presets before digitizing a new segment:

- 1 In the toolbars, click the down-arrow next to the tool whose preset you want to apply.  
*You see a shortcut menu, listing all presets that have been enabled for this design.*



- 2 Choose the name of the preset you want to use from the menu.
- 3 Create your segment.  
*The settings assigned to the selected preset will be applied to the segment.*

### To apply a Preset to a selected segment or group:

- 1 Use the Select tool to select the segment (or segments) you want to apply the Preset to.
- 2 Press the shortcut combination for the desired Preset.  
*The selected Preset will be applied to the selected segments.*

## Applying No Presets

When you select a Preset for a tool, you override the global recipe used in the design and the preset remains in the design. In order to restore the original styles for a tool, you must apply No Presets to the specified tool.

### To apply no presets to the segment:

- 1 In the toolbar, click the down-arrow next to the tool.  
*A list of applicable presets appears*
- 2 Select "No preset".
- 3 Click OK to close.

## Deleting Presets

You can easily delete unnecessary presets from Tajima DG16 by Pulse's Presets Manager. You can do this either from the Preset Manager, or from the toolbars.

### To delete presets using the Presets Manager:

- 1 On the Manage tab, select Presets.  
*The Presets manager dialog opens.*

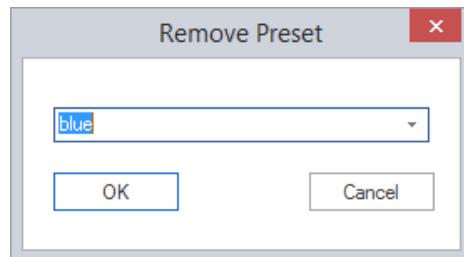
- 2 In the Presets window of the dialog, select the preset you want to delete.
- 3 Click Delete.  
*You see a warning message; click OK if you are sure you want to delete the selected preset.*
- 4 Click Close to save the change and close the Preset manage dialog.



You can also delete Preset sets in this same way; simply click in the "Presets" field at the top of the dialog, and then select "Preset sets." This will display a list of Preset sets that can be selected and deleted.

### To delete presets using the toolbars:

- 1 On the toolbar, click the small down arrow to the right of one of the digitizing tools.
- 2 From the drop-down list, select "Remove Preset."  
*You see the Remove Preset dialog.*



- 3 In the dialog, click the small down-arrow to the right of the preset name, and select the preset you want to remove from the drop-down list.



Note that the preset will be removed completely from your saved presets, not just from the presets for the current digitizing tool

- 4 Click OK.  
*You see a dialog confirming that the selected preset has been removed.*
- 5 Click OK to close the confirmation dialog.

## Using Templates

Templates allow you to create a model to make a number of similar designs. In a template, each lettering or design segment is treated as a unit that can be replaced. For example, a text segment can be changed so that it uses a different font or text, but the segment appears in the same place as the model.

An application for templates might be to create T-shirts for each player on a sports team; instead of creating a separate design for each, Templates lets you create each shirt using the same logo design and a different name.

There are two ways to enter the text and other data for templates; manually, or by importing the from an Excel spreadsheet (\*.xls or \*.xlsx).

Very important: If you use a spreadsheet to enter the data, the columns in the spreadsheet must be arranged in the same order as the columns in the grid on the Templates tab; otherwise, the data import will not work correctly. Also, there must be the same number of columns in the spreadsheet as there are in the grid on the Templates tab.



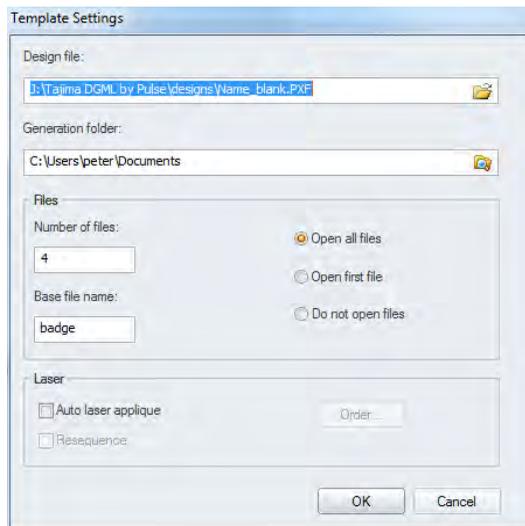
The following example is based on a simple design, in which a number of names are to be sewn onto a shirt.

### To create & apply a Template:

- 1 Create the design you want to use as a basis for the Template; using the text tools, include some “placeholder” text in the design, as in the example below:



- 2 Save the design.
- 3 To create the template, do one of the following
  - ♦ Choose File—New.
  - ♦ Press Ctrl + N on the keyboard.
 You see the *New Document dialog*.
- 4 In the Special Projects area, click on the templates  icon.
 You see the *Template Settings dialog*.

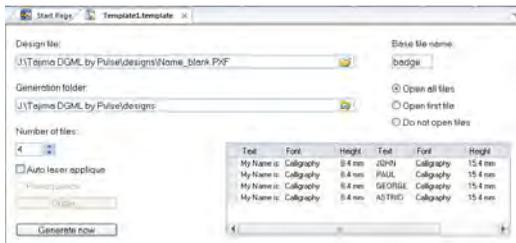


- 5 In the top field of the Template Settings dialog, browse to the directory of the design file you wish to use as a template.
- 6 Select a folder to use as the destination folder for the finished files.
- 7 In the Number of Files box, enter the number of different designs you need to create from this template.
- 8 In the Base Filename box, enter the common name, or prefix, for all the designs. In this example, the prefix entered is “badge” so the designs generated will be badge1.pxf, badge2.pxf, etc.
- 9 Select one of the following options:

- ◆ Open All Files: Each file will open (in its own tab) in the workspace.
- ◆ Open First File: Only the first of the files will open.
- ◆ Don't Open Files: The files will be generated, but not opened.

**10** Click OK.

*The Template settings dialog will close; a tab for the Template will open in the workspace, containing the specified settings.*



If desired, you can also change these settings (such as the number of designs to be created, or the location of the destination folder) in the template tab.

*The Template also contains a grid, displaying the a row for each of the files you will be creating from the template.*

Text	Font	Height	Text	Font	Height
My Name is:	Calligraphy	8.4 mm	JOHN	Calligraphy	15.4 mm
My Name is:	Calligraphy	8.4 mm	PAUL	Calligraphy	15.4 mm
My Name is:	Calligraphy	8.4 mm	GEORGE	Calligraphy	15.4 mm
My Name is:	Calligraphy	8.4 mm	ASTRID	Calligraphy	15.4 mm

**11** In the grid, input the text, font and size data you want to assign to each design. Do one of the following:

- ◆ To enter the data manually:
  - ◆ Enter the names individually in the appropriate text field.  
In the given example, the first text segment, “My name is” is left constant, and the names are placed

in the second, placeholder segment (“BLANK”).

- ◆ If required, customize the fonts and change the lettering height in each field.
- ◆ To import data from an Excel spreadsheet:
  - ◆ Click the Import button.



To use the Import feature, Microsoft Excel installed must be on your computer.

*A Windows browser window appears.*

- ◆ Browse to the directory containing you Excel file.
- ◆ Select your file, and click Open.
- ◆ Select the appropriate worksheet from the drop-down list to the right of the Import button.



If the text in the file you are importing contains characters that are not in the font specified in the Patches table, you will see an error message. The file will still be generated, but it may be missing some of the letters. Be sure to check the font to ensure that it has the required characters. For more information, see Help—Fonts.

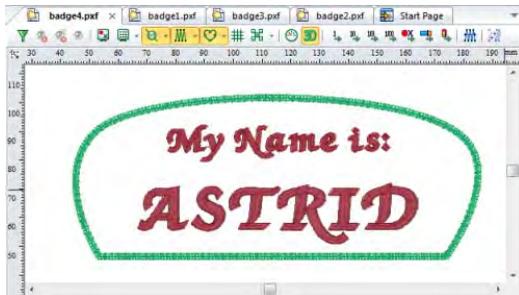
**12** (Optional) You can also change the text, font, and/or lettering height of each name individually, by selecting the appropriate cell in the table.

To change a multiple entries at once, click while pressing the Shift key (or click, hold, and drag downwards) within a single column to select it. Then, enter the new data; the rest of the selected cells will be updated.

**13** Click **Generate**.

*The specified files will be generated, and saved to your destination folder; depending on what setting you choose in step 9, one*

or all of the files will open in your workspace.



- 14 To save the template for re-use at a later time, click the Template tab again, and choose File—Save as

Templates are saved as their own special file type, a “Template Definition file” (\*.template); to make other designs based on this template, open it directly in Tajima DG16 by Pulse



## Creating Patches

Tajima DG16 by Pulse automates the task of placing a number of designs into one embroidery frame. For example, you could use the same name design for a school team’s warm-up suits with the school’s logo and the team member’s name on the jacket.

There are two ways to enter the text for patches; manually, or by importing the from an Excel spreadsheet (\*.xls or \*.xlsx).

Very important: If you use an Excel spreadsheet to enter the data, the columns in the spreadsheet must be arranged in the same order as the columns in the table in the Patches tab; otherwise, the data import will not work correctly. Also there must be the same number of columns in the spreadsheet as there are in the Patches tab (that is, you cannot import an empty column).



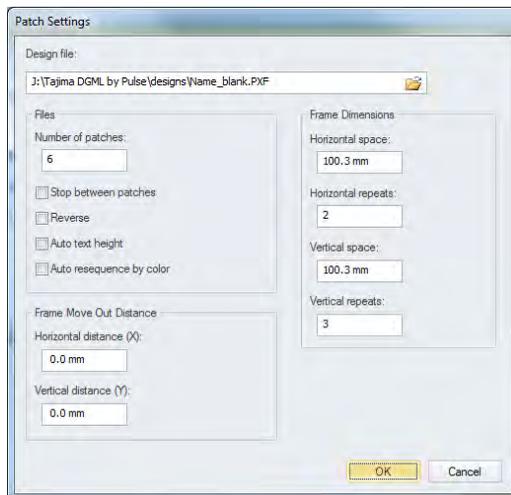
### To use Patches:

- 1 Create and save the design you want to use as the basis for the Patch Frame.  
*In this example, we will base the patch on a very simple design, like this:*



- 2 Do one of the following
  - ♦ Choose File—New.
  - ♦ Press Ctrl + N.

*You see the New Document dialog.*
- 3 In the Special Projects area of the dialog, click on the Patches  icon.  
*You see the Patch settings dialog.*



- 4 In the Design file field, browse to the design you want to base the patches on.
- 5 In the Number of Patches box, enter the number of copies you want of the design.

- 6 Check one or more of the following optional setting boxes in the dialog:
- ◆ Select **Stop between patches** to insert a stop command between the sewing of each patch.
  - ◆ Select **Reverse** to sew the patches from bottom to top (left to right) rather than the traditional top to bottom (left to right).
  - ◆ Select **Auto text height** to set the lettering height to fit the design frame.
  - ◆ Select **Auto resequence by color** to resequence the patches by color.
- 7 Define the patch frame dimensions.



The dimensions that you enter must take into consideration the size of the design you are basing the patch on, so as to avoid overlap.

- ◆ Enter the Vertical space required to fit the patch (by default, set to 100.3 mm/ 3.95 in).
- ◆ In the Vertical repeats box, enter the number of rows of patches to create.
- ◆ Enter the Horizontal space required to fit the patch (by default, set to 100.3 mm/3.95 in).
- ◆ In the Horizontal repeats box, enter the number of columns required.

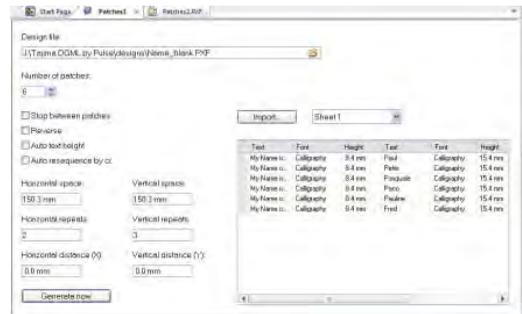


You only have to enter the horizontal and vertical spacing for the patch dimensions once because the system stores the spacing from session to session.

- 8 (Optional): Include a “Frame Out” distance to displace the frame away from the needles when sewing has completed; this is to make it easier to remove the finished work. Set the horizontal (X) and vertical distance (Y) in the Frame Move Out Distance area of the Patch Settings dialog.

- 9 Click Okay.

*The Patch settings dialog will close, and a new tab will open in the main workspace, containing the patch information.*



*You can further modify the patch settings in this tab. In addition to all the settings described in steps 4 to 9 above, this tab also contains a table that allows you to enter the specific names and/or numbers that you wish to sew onto the patches.*

- 10 To input the data into the table, do one of the following:
- ◆ To enter the patch text manually, click in each cell in the text column, and type in the text.
  - ◆ To import the table data from an Excel spreadsheet:
    - ◆ Click the Import button.



To use the Import feature, Microsoft Excel must be installed on your computer.

*A Windows browser window appears.*

- ◆ Browse to the directory containing your Excel file.
- ◆ Select your file, and click Open.
- ◆ If required, select the appropriate worksheet from the drop-down list to the right of the Import button.



If the text in the file you are importing contains characters that are not in the font specified in the Patches table, you will see an error message. The file will still be generated, but it may be missing some of the letters. Be sure to check the font to ensure that it has the required characters. For more information, see Help—Fonts.

*The text information will be entered into the table.*

**11** You can also modify the Font, Font Height, and orientation of the patches in the table.

- ♦ In the Font column, select a particular font for each patch.
- ♦ In the Height column, enter a new height value or change the existing height value for each patch.
- ♦ In the Flip column, select Yes to flip the patch.
- ♦ In the Mirror column, select Yes to mirror the patch.

To change a multiple entries at once, click while pressing the Shift key (or click, hold, and drag downwards) within a single column to select it. Then, enter the new data; the rest of the selected cells will be updated.



**12** Click Generate Now button.

*The Patch design will open in a new tab.*



## Using the Create a Monogram Dialog

In addition the regular Monogram lettering tool, Monogram designs can be created using the Create a Monogram dialog. This dialog is opened from the New design dialog.

Creating a monogram design is very easy with this wizard; select one of the monogram layouts, type in the letters you want, choose a font and thread color, and click the OK button. The monogram will appear in your workspace as a new “Monogram” tab, after which it can be generated as a new file, or saved as a template.

### “Specialty monogram” Styles

The Create a Monogram dialog includes a different set of monogram configurations, called “specialty monogram” styles. In these, there are two separate lettering segments – the single-letter monogram in the background, and the multi-letter text in the foreground.

For these styles, a different font can be chosen for each segment; the “Font 1” box determines the font of the single-letter monogram, and the “Font 2” box determines the font of the multi-letter part.



*An example of the “Specialty bottom” style, using two different fonts*

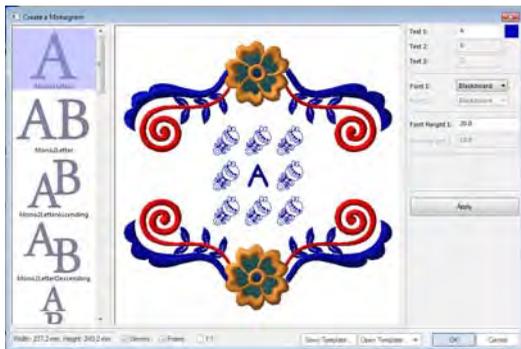
## Frames and decors

You can also add embellishments - pre-digitized decors and/or frames - to the monogram using the “Create a monogram” dialog.

Decors are small, pre-digitized embroidery designs, which can be added around the monogram. Frames are pre-digitized borders which can be placed around the monogram letters.

### Step1: Open the Create a Monogram dialog

- 1 Do one of the following
  - ◆ Choose File—New.
  - ◆ Press Ctrl + N on the keyboard.*You see the New Document dialog.*
- 2 In the Special Projects area, select “Monogram.”
- 3 Click OK.  
*You see the Create a Monogram dialog.*



### Step 2: Create the text

- 1 In the Create a Monogram dialog, select one of the styles from the monogram styles area (column on the left).

- 2 In the Text area, type the required text into the appropriate field.

The number of text fields that are active will depend on the monogram style that has been selected.

For a single-letter monogram pattern, only the “Text1” field will be active, while for two-letter monogram patterns, “Text 1” and “Text 2” will be active. And, if a three-letter monogram pattern is selected, all three text fields will be active.

For Specialty monograms, “Text 1” and “Text 2” will be active - the initial letter will be input into “Text 1” and the name portion will go into “Text 2.”



- 3 Select the font for the monogram from the fonts field.
- 4 Adjust the monogram height by entering the a new value into the Font Height field of the dialog.

The font height value may not correspond exactly with the height that appears in the Status Line of the “Create a monogram” dialog.



The Font Height value is based on the height of the “reference letter” of the selected font; the heights of other letters in the font may vary slightly.

- 5 Select the desired font and color for the text in the monogram.  
See “Changing the font” and “Changing the color of individual letters” for details.
- 6 Click Apply to view the changes in the preview panel.

### Step 3: Choose Decors

There are eight possible positions where you can place decors in the dialog preview panel.

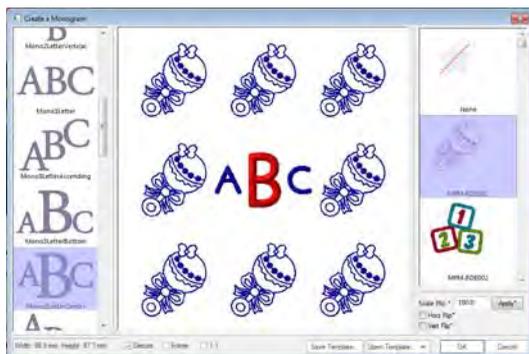
These positions indicated by placeholder design.



Decors will be included in “Create a Monogram” dialog by default. To create a monogram design with no decors, uncheck the Decors checkbox.

- 1 Click on a placeholder position to place the first decor.

*The column on the right of the dialog changes to show a list of available decors.*



- 2 Click on the decor you want to add.  
*The selected decor appears in the monogram preview panel.*
- 3 (Optional) Adjust the size and/or orientation of the decor:
  - ♦ Scale the decor’s size up or down by typing a percentage into the scale box.
  - ♦ Check the Flip horizontal box.
  - ♦ Check the Flip vertical box.
- 4 Repeat the preceding steps to add more decors in the other positions.



If you want to add the same decor design more than once, select and place first decor as described above. Then, hold down the **CTRL** key while clicking the next placeholder; the Monogram Designer will retain your original selection and apply it to all subsequent placements.

- 5 When you have added all the decors required, click Apply to preview the result.

#### Step 4: Choose a Frame

The monogram design can have a decorative frame added to it, which you select from a list of that are included with the software.

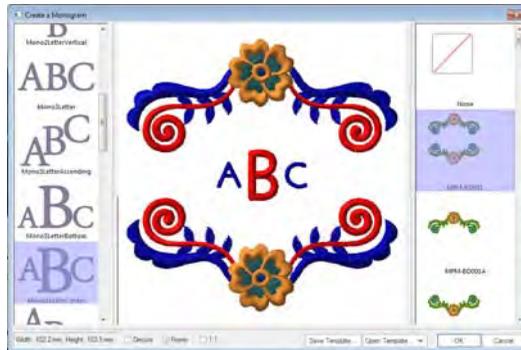
Previews of these frames appear in the pane on the right side of the Create a monogram dialog



A placeholder frame is included in “Create a Monogram” dialog by default. To create a monogram design with no frame, uncheck the Frame checkbox.

- 1 In the preview panel of the Create a monogram dialog, click on the Frame placeholder to select it.

*The list of available frames appears in the column to the right of the dialog.*



- 2 Click on one of the frames to select it.  
*The selected frame will appear in the preview panel of the dialog.*

- 3 Click Apply to preview the monogram with the frame included.

*The monogram, with the selected frame added, will appear in the Create a Monogram dialog window*



To view the design scaled to actual size, check the 1:1 checkbox.

#### Step 4: Outputting the monogram design:

- 1 When all your changes to the text, decors, and borders have been made, click OK.

*The new monogram design appears in the workspace, in its own tab.*

- 2 To save the design as an outline or embroidery file, do the following:

- ◆ Click “Generate Now.”

*The Monogram design will open in a new tab.*

- ◆ Click the Save tool, or Ctrl + S to save the file.

*You see the Save as dialog.*

- ◆ In the File Name box, enter the file name for the design you want to be saved.
- ◆ In the Save As type list, select the file type you want the design to be saved as.

- 3 To save the monogram design as a template, click “Save as template.” For more information, see “Saving a Monogram Template.”

## Changing the color of individual letters

In the Create a Monogram dialog, the lettering will have a default color to start out with. Using the Import Color function, you can change this color to any of the colors in the available thread charts.

The Import color function used to apply each letter in the monogram separately, should you want to have your letters sewn in different colors.

### To change the color of letters in the Monogram:

- 1 Click in the “color swatch” square to the right of each letter.

*You see the Import Color dialog.*



- 2 To select a new color palette, click the down arrow to the right of the Color Palette Name list.

*The new list of thread colors appears in the dialog.*

- 3 Choose a thread color from the selected palette by clicking one of them.

You can search for a specific color within selected Color Palette, if you know its name.



To do this, click the Find  button in the Import Color dialog. A new dialog, the Find Color dialog, will open. Type the first few letters of the name of the color you are looking for into the box, and the Find Color dialog will display a list of threads matching those initial letters. Alternatively, you can type in the thread number and the Find Color tool will locate the thread by number.

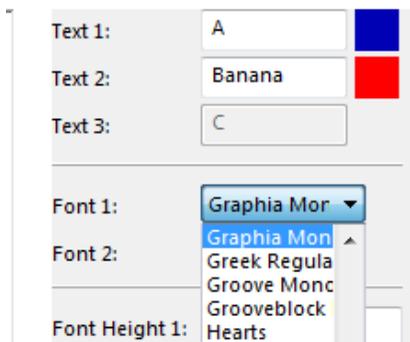
- 4 Click Select.  
*The Import Color dialog closes, and the swatch changes to the color you have selected*
- 5 On the Create a monogram dialog, click Apply.  
*In the Preview panel, the letter will change to the color you chose.*

## Changing the Font

You can change the font of the monogram lettering in the Create a monogram dialog. Select from any one of a embroidery fonts that come with the Tajima DG16 by Pulse embroidery software.

### To change the font:

- 1 In the Font area, click on the down-arrow next to the Font 1 list.  
*A drop-down list of all the available fonts appears.*



- 2 On the drop-down list, select the desired font by clicking on it.
- 3 Click Apply.  
*The monogram lettering changes to the selected font.*

## Saving a Monogram Template

The “Save Template” option is very useful if you are going to be creating a number of designs that are very similar; for example, if you are going to make some designs that have exactly the same pattern of decors, but with different people’s initials in the middle. You can select the monogram style, font, decors, and frame, and then save this pattern as a template, for later re-use. Then, when you want to make a new monogram, you can open the template and change only the letters.



Note that your templates will be saved as a special outline file type, the Template File format, which has the \*.ini extension. These files contain special outline and font information that allows them to be opened in the Create a Monogram dialog.

### To save as a template:

- 1 Open the Create a monogram dialog.
- 2 Create a new monogram design as usual, but do **not** press OK when you are finished.
- 3 Select the “Save Template” button.  
*You see a “Save as” dialog box.*
- 4 In the “Save as” dialog, choose a destination folder for the template, and type a name in the File name field.
- 5 Click Save.

## Applying a Monogram Template

When you want to use one of your saved templates to Create a monogram, do the following.

### To use a monogram template:

- 1 Open the Create a Monogram dialog.

- 2 Click the Open Template button.  
*You see an Open dialog.*
- 3 In the “Look in” field, navigate to the folder containing your saved templates.
- 4 Choose a template, and click “Open”  
*The template opens in the Create a monogram dialog.*
- 5 Make any necessary alterations to the design, for example, the initials in the monogram, the color of the letters, etc.
- 6 Click OK.  
*The new design appears in your workspace.*

## WordIt

The WordIt  tool is a special type of text tool. It generates a number of words (“text paths”) in different sizes and colors, and places them into a design. The text paths are scattered randomly around within the boundaries of an envelope shape, which you select from the dialog.

Use the dialog to set other parameters of the design, such as the maximum number of text paths that will be included, the font used, the orientation of the text, etc.

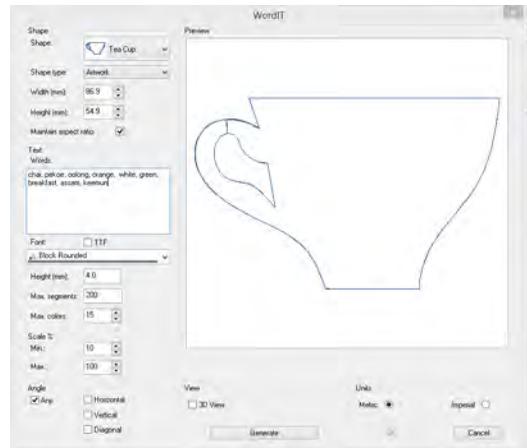
You can see how the WordIt will look in the dialog’s Preview window before you actually place it in your design. This allows you to adjust settings and re-generate the design as often as required to get the right result.

### To use WordIt:

- 1 Create a new design file.
- 2 Do one of the following:
- 3 From the Rollup toolbar, click the WordIt

 tool.

- 4 From the menu bar, select Tools—WordIt.  
*You see the WordIt dialog.*



- 5 In the Shape area, do the following:
  - ♦ Select a WordIt shape (envelope) from the Shape drop-down list.
  - ♦ Select one of the outline types from the drop-down list:
    - ♦ **Artwork:** The outline shape (envelope) will not have any stitches, but it will appear in the final design as an artwork object.
    - ♦ **Run:** The envelope shape will be generated as a single run stitch path.
    - ♦ **Bean:** The envelope shape will be generated a bean stitch path.
    - ♦ **Steil:** The envelope shape will be converted to steil stitches.
    - ♦ **Appliqué:** The envelope shape will be converted to an appliqué segment.
  - ♦ Enter the overall dimensions (height and width) of the WordIt outline, or envelope. Clicking the up and down-

arrows next to these fields to fine-tune the dimensions in 1 mm increments.

The “Maintain Aspect Ratio” box will be checked by default; when checked, both height and width will be scaled proportionally when you adjust either dimension.

Uncheck “Maintain Aspect Ratio” if you want to change one dimension without affecting the other.



**6** In the Text area, do the following:

- ◆ Enter the desired word or words into the Words field; to have two or more words/phrases appearing separately in the final design, separate them by commas.

Text

Words:

chai, pekoe, oolong, orange, white, green, breakfast, assam, keemun

- ◆ Select the font you want to use from the drop-down list.



By default, only the available embroidery fonts will be displayed on the list – to show TTF fonts instead, check the TTF box.

- ◆ If not using the default height for the selected font, enter the desired value in the Height field.
- ◆ In the Max segments field, enter maximum number text segments that you want to include in the design.
- ◆ The text paths in the finished design will have colors randomly assigned to them. You can limit the maximum number of colors that will be used by

entering the desired value in the Max colors field (up to 15).

- 7** In the Scale fields (Min./Max.) select the range of the variation in the height of the generated text segments. The minimum and maximum height will be expressed as percentages, where 100% equals the original font height as set in the text area.
- 8** Under Angle, choose the orientation of the text paths:
- ◆ **Any:** The paths will be oriented randomly, so as to best fit the chosen envelope.
  - ◆ **Horizontal:** All text paths will be oriented along the horizontal.
  - ◆ **Vertical:** All text paths will be oriented up and down.
  - ◆ **Diagonal:** Text will be placed at a 45° angle.



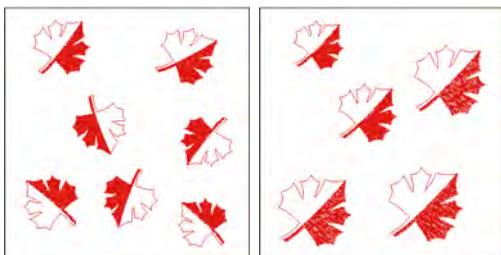
You can select any combination of the Horizontal and/or Vertical and/or Diagonal orientations; this will result in a mix of the selected orientations in the final design.

- 9** (Optional) In the View area, check 3D View to display a 3D simulation of the stitches in the Preview window.
- 10** (Optional) In the Units area, select the units you want to use for dimensions in the WordIt shape.
- 11** Click Generate to see the WordIt in the dialog’s preview window.



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 Random Repeat. 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**.

##### 5 Click the Apply button.

*A preview of the resulting design is displayed in the dialog box.*

You can repeat steps 2-5 until you get the look that you want, before generating the segments.



Also, each time the Apply button is clicked, the Random Repeat tool's randomization will be re-done; so, if you are not satisfied with the particular arrangement of the objects the first time, try hitting Apply again until you get one that you like better.

##### 6 Click OK.

*The Random Repeat will appear in your design.*

## ColorIT Tool

The ColorIT tool is used to change the overall appearance of a design by adjusting its color scheme.

There are a number of different ways that the ColorIT tool can be used to adjust the design's thread colors:

- **Lighten or Darken:** In both these cases, the program analyzes the colors of the selected threads, and substitutes new threads of a similar hue but different intensity (i.e., lighter or darker, depending on which you choose).
- **Tint:** All selected colors will be adjusted according to the color you choose in the color chooser dialog. So, for example, if you select a red tone in the color dialog, the selected colors in your design will all be converted to reddish colors.
- **Randomize:** New thread colors will be applied randomly to the selected colors in the design.
- **Theme:** ColorIT themes come pre-loaded with the software. When you apply a theme the program looks at the selected colors in the design, and substitutes for each the thread color from the Theme set that is closest in value.



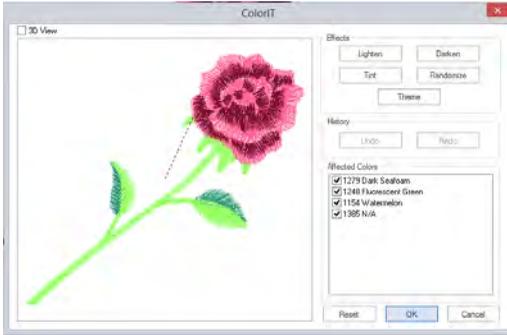
At any point, you can check the optional "3D View" box in the top-left of the dialog to preview the design in 3D stitches.

### To use the ColorIT tool:

- 1 Open an existing design that you want to modify the colors of.

- 2 On the Personalization toolbar, select the ColorIT  tool.

*You see the ColorIT dialog window. The dialog includes a preview of the image, and a list of the current threads in the design.*



By default, all thread colors will be selected, and so all will be affected by whatever change you make.



If you only want to lighten or darken some colors and not others, uncheck those you do not want to change.

**Affected Colors**

- 1279 Dark Seafoam
- 1248 Fluorescent Green
- 1154 Watermelon
- 1385 N/A

- 3 To lighten or darken colors, do one of the following:
  - ◆ Click Lighten to substitute lighter thread colors for the selected thread colors.

- ◆ Click Darken to substitute darker thread colors for the selected thread colors.
- ◆ Repeat either of the above as many times as required to achieve the desired color level.



*The design after three darkening steps.*

- 4 To Tint the color scheme, do the following.
  - ◆ Click the Tint button.

*You see a Color dialog.*

  - ◆ In the Color dialog, select the tint color you want to apply.

Colors can be selected from the color “swatches” on the left, or you can click in the color palette on the right to create a custom color. If using the palette, note that the slider on the far right controls the light/dark balance of the custom color.



- ◆ Click OK.
- The Color dialog will close. In the ColorIT preview window, you will see that the design's colors have been adjusted according to the tint color.*
- 5 To substitute random colors for the selected threads, click Randomize.
  - 6 To apply a ColorIT Theme, do the following:

- ◆ In the ColorIT dialog, click the Theme button.

*You see the ColorIT Themes dialog.*

- ◆ Tick the box next to the theme you want to apply.
- ◆ Click OK.

*The ColorIT Themes dialog will close. In the ColorIT preview window, you will see that the colors have been changed to those in the selected Theme.*

- 7 If required, use the Step Back and Step Forward buttons to review the color changes that you have made.
- 8 Click the Okay button to close the dialog and complete the color changes.  
*The design will appear in the workspace with the colors change.*

## Adding Emojis

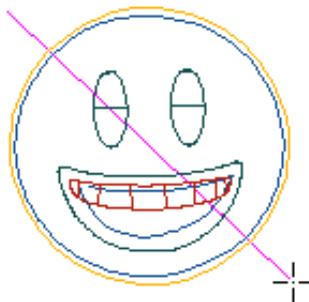
The Import Emoji 🗑️ tool allows you to quickly add Emoji designs to your embroidery designs. There are also text bubble designs that you can add to the Emoji designs. The Emoji designs come pre-loaded with your software.

### To input Emojis:

- 1 On the Personalization toolbar, select the Import Emoji 🗑️ tool.  
*The cursor changes to a small cross; in the Properties panel, you see the Emoji tab.*
- 2 In the Properties Panel, click the down-arrow next to the Emoji field:  
*You see the list of available Emojis.*



- 3 Select the emoji you want to use from the list.
- 4 Click and drag in the workspace to place the emoji into your design. The distance and direction you drag the mouse will determine the size and orientation the emoji will have when it is placed. As well, the angle and X/Y dimensions of the design will be displayed next to the cursor as you drag.



- 5 Release the mouse button to place the emoji.
- 6 Repeat steps 4–5 if you want to place more instances of the selected emoji.

## 7 Press Enter to complete the action



If you have checked “Right-click to complete segments” in the User Settings—Environment page, you will need to right-click when done adding symbols.

*The completed Emoji will be placed in the design.*



## Using the Outline Processor

Use the powerful Outline Processor to modify your designs in Tajima DG16 by Pulse. You can adjust a design's stitch count and other settings in order to alter its overall cost while having the design look as close to its original design as possible. The outline processor allows you to set a target stitch count (absolute or percentage) for the active segment in a design. Tajima DG16 by Pulse automatically adjusts the values of settings such as Satin density, Tatami density, Fill stitch length, Run stitch length, Fill density, and Underlay density according to your target stitch count value. Once you apply the values of the target stitch count and other settings to the active segment, you will see its actual stitch count value.

## To change outline processor settings:

- 1 Select the segment you want to modify.
- 2 Choose Tools—Outline Processor.  
*You see the Outline Processor dialog.*
- 3 In the Processor Type list, select one of the following modes for processing designs:
  - ♦ Standard mode. The values of all the settings are modified by the same proportion.
  - ♦ Advanced mode. The system will modify each setting value by different percentages in an effort to keep the overall stitch quality as close to the original design as possible.
- 4 In the Target Stitches area, enter the estimated number of stitches you want the active segment to have into the Stitch Count boxes. You can enter a percentage or absolute stitch count value.

*You see only those settings that apply to the active segment altered accordingly in the dialog.*



Once you enter a stitch count value for the active segment, you do not have to make further changes to the other available settings unless you choose to.

- 5 In the Stitch Values area, complete any of the following:
  - ♦ In the Satin Density boxes, alter the satin density values accordingly.
  - ♦ In the Tatami Density boxes, alter the tatami density values accordingly.
  - ♦ In the Tatami Stitch Length boxes, alter the tatami length values accordingly.
  - ♦ In the Fill Density boxes, alter the fill density values accordingly.
  - ♦ In the Fill Stitch Length boxes, alter the fill stitch length value accordingly.

- ♦ In the Run Stitch Length boxes, alter the run stitch length values accordingly.
- 6 In the Underlay area, complete the following:
    - ♦ In the Underlay Density box, alter the underlay density value accordingly.
    - ♦ In the Underlay Stitch Length box, alter the underlay stitch length value accordingly.
  - 7 In the Pull-Compensation area, complete the following:
    - ♦ In the Percentage box, enter the percentage value for the pull-compensation.
  - 8 In the Dimension area, complete any of the following:
    - ♦ In the Width boxes, alter the width values for your stitches accordingly.
    - ♦ In the Height boxes, alter the height values for your stitches accordingly.
  - 9 Click Apply.  
*Tajima DG16 by Pulse will generate the stitches in the active segment accordingly. In the Stitch Count boxes, you will now see the segment's actual stitch count value.*
  - 10 To keep the changes made to the active segment, click OK.

## Merging Designs

You can merge design files into an active design window. Depending on how the design is saved (i.e. in a directory or in the librarian database), there are two different ways to merge a new design into the current one.

## Using the Merge Design Tool

The Merge Design  tool can add an existing design to your current one.

In some system levels, you can take advantage of the numerous stock design packages available to create your own distinct designs. Use the Merge Design tool to import the design and then you can edit the design.



When performing major design editing, you should be careful of how other segments will be affected. For more information, see "Editing Segments".

Tajima DG16 by Pulse allows you to merge design files using a variety of file formats. You can merge Stitch and Machine Format Files such as the Pulse Stitch File (\*.PSF) or Barudan Stitch Files (\*.DSB) into the unified design window too; however, you must choose how you want to treat the stitches in the design being merged.

When you merge a Stitch or Machine Format File, you will be able to merge the design file in one of three ways:

- **Merge a stitch file.** This is the standard merging option.
- **Merge as stitch segments.** This option allows you to convert the stitches into a series of stitch segments. During the merging process, stitches get grouped together where groups are separated by trims, color changes, changeovers, and stops. Each group is added to the design as a stitch segment. The stitches in stitch segments should be identical to the stitch file. Outline changes made to any part of the design will not affect stitch segments. You cannot perform any outline

editing on stitch segments except to re-size, reflect, rotate, and change the color of these stitch segments; however, major editing is not advisable. With the exception of the previously mentioned outline edits, the stitches which are part of a stitch segment can only be modified by direct stitch editing. This helps keep the stitches true to what was in the stitch file. If you want to perform more advanced outline edits on stitch segments, then you must selectively perform a Stitch to Outline conversion (STO) to the segments and convert them to our more advanced segment types. However, this will not guarantee the preservation of your stitches.

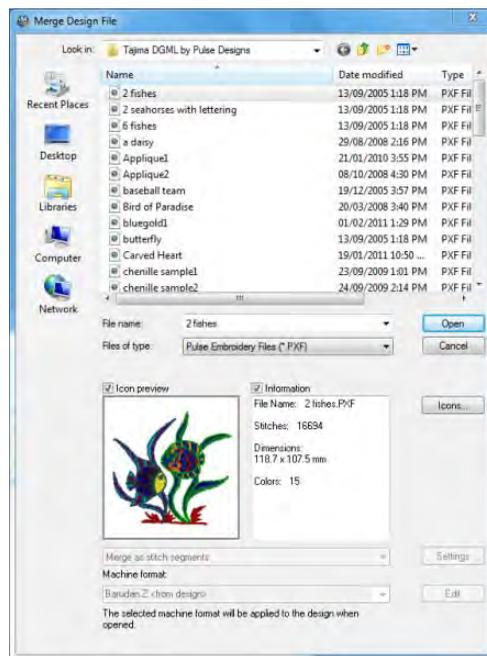


For more information on STO, see "Converting stitches to outline segments".

- **Convert merged stitches to outlines.** This option performs a STO on the Stitch file first and then merges the resulting Outline segments. Convert merged stitches to outlines is ideal for major editing such as density reduction or vertex editing.

### To merge designs:

- 1 Do one of the following steps:
  - ♦ Choose File—Open to open an existing file.
  - ♦ Select the New  tool to create a new file and create a design.
- 2 In the Edit toolbar, click the Merge Design  tool.  
*You see the Merge Design File dialog box.*



- 3 Select a design file (or more than one) from the list of designs.
- 4 The following options are available on the Merge Design file dialog.
  - ♦ In the Files of type list, select the file type for the design you want to merge with the opened design file; the default is a Pulse Embroidery File (\*.pxf).
  - ♦ Check the Icon preview box to display a thumbnail image of the design.
  - ♦ Check the Information box to display the design's name, stitch count, dimensions, and number of colors.
  - ♦ Click the Icons button to open a dialog showing preview images of all the design files in the selected folder.
- 5 If the file being merged is a stitch file, the following additional options will apply:
  - ♦ Select how the merged stitch segments will be handled. Choose one of the following options from the list:

- ♦ Convert merged stitches to outlines
- ♦ Merge a stitch file
- ♦ Open as stitch segments



See the introduction to this section for an explanation of these options.

- ♦ Click the Settings button to open the Stitch file Options dialog. The following table summarizes the options that can be set on this dialog:

Settings	What it does
Maximum ISD	Enter the maximum distance between satin stitch lines (ISD). Values outside of this distance will be treated as non-satin stitches. If values fall within this distance, we will convert it to a satin segment.
Maximum density variation	Enter a percentage value that the variation of satin line distances (ISD) must fall within. Values outside this percentage are treated as non-satin stitches.
Run stitch length variation	Enter a percentage value that the variation of run stitch lengths must fall within. Values within this percentage are treated as Run segments.
Maximum stitch length	Enter a maximum stitch length value. Stitch lengths that are lower than or equal to this value will be treated as a Run segment.
Minimum stitches for run	Enter the minimum number of stitches allowed for a Run segment. If the specified number of stitches are found, the stitches will be treated as a Run segment.
Preserve connections as stitch segments	Select to have jumps that connect one segment to another segment remain stationary when segments are moved or regenerated. Use this setting for specific sewing applications where the movement of the embroidery machine between parts of the design is critical.

Settings	What it does
Auto-detect Connections	When this box is checked, connections between segments in the stitch file (such as color changes and jump stitches) will be recalculated when you modify them; left unchecked, the connections will be preserved as they were when you opened the file.
Ignore zero-length stitches	Select to ignore stitches that have a length of zero when creating Run segments.



For most sewing applications, the Preserve connections as stitch segment setting should not be selected. This ensures that jump stitches are updated when design editing occurs.

- 6 Click OK to save your changes and close the Stitch File Options dialog.
- 7 In the Machine Format field, select the machine format that you want applied to the design when saved.
- 8 (Option) Click Edit to make changes to machine format properties and settings.



Only advanced users should modify machine format properties. For more information on changing machine format settings, see "Using Machine Formats".

- 9 Click Open.
- 10 Move the cursor to the design workspace. *The cursor turns into a box with a large cross hair that contains the design; next to the cursor, you will see the path and name of the merged file.*

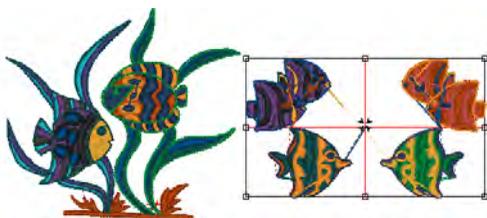


Before you place the design, press **CTRL** on your keyboard to insert a color change at the beginning of the merged design.

**11** Click to place the design.

If more than one design was selected at Step 3), they will be merged sequentially, one for each time you click in the workspace.

*The merged design file appears in the design workspace.*



## Merging Designs from the Librarian Database

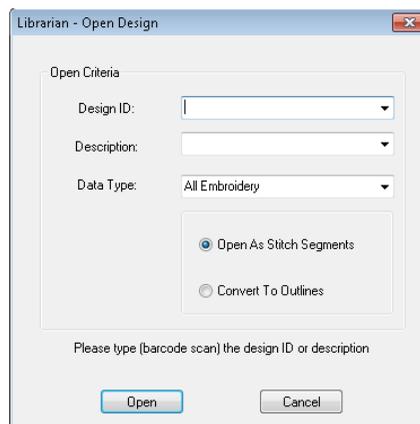
If you have designs stored in the Librarian database, you can also merge these directly into the current design.

For more information about how to configure the Librarian database and store designs in it, see the “Using Librarian” section of this guide.

### To merge designs from the Librarian:

**1** On the menu bar, select File—Merge from Librarian

*You see the Librarian —Open Design dialog box.*



**2** Do one of the following:

- ◆ In the Design ID field, type the name of the design (or scan it from a barcode).
- ◆ In the Description field, enter the description of the design.

**3** In the Data Type list, select one of the following types of designs you want opened:

- ◆ All Embroidery
- ◆ Stitch Design
- ◆ Outline Design
- ◆ Chenille Design
- ◆ Outline Chenille Design



Some stitch designs may not have an associated outline design. All outline designs, however, will have an associated stitch design.

**4** If you have selected All Embroidery, Stitch Design, or Chenille Design in the above step, choose one of the following options:

- ◆ Open as Stitch segments.
- ◆ Covert to outlines.

**5** Click Open.

*The cursor will change to a small cross, surrounded by a bounding box that shows the dimensions of the merged design.*

- 6 Move the mouse to the position where you want the merged design to be placed, and click.

*The merged design will appear in the workspace.*

## Using the Autodigitizer Wizard

You can create embroidery from vector or bitmap images in a few simple steps using the Autodigitizer Wizard.



The Autodigitizer Wizard incorporates all the functionality of the Image Vectorizer wizard from earlier versions of the software (see Step 4).

The image does not need to have each color outlined. You can use images with shading because, by cleaning the image, the wizard ignores closely related colors. Simply choose an image and follow the instructions that the Wizard gives you.

### Step1: Open the Image file

- 1 Do one of the following
    - ♦ Choose File—New.
    - ♦ In the File toolbar, click New.

*You see the New Document dialog.*
  - 2 In the Wizards area, click the Autodigitizer icon.
- You see the Autodigitizer Wizard window.*



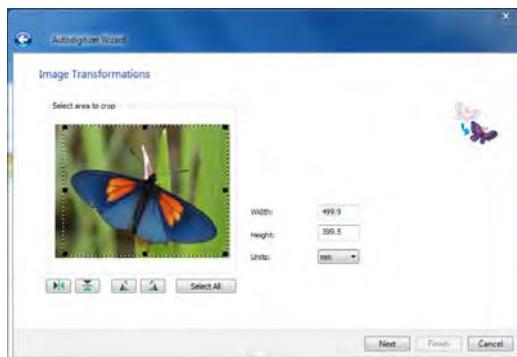
- 3 Click **Select Image** to choose the type of file you want to autodigitize.

- 4 Click Next.

*You see the Autodigitizer Wizard-Image Transformations window.*

### Step2: Image Transformations

In the Image transformation window, you can (if you wish) crop the image that you just imported, and change its size before digitizing. If the image is one of the bitmap formats (such as \*.jpg or \*.bmp) files, you can crop, rotate, flip and resize the image.



- 1 To crop the image, select only the portion you want to digitize; place your the mouse pointer over the black dots around the image and drag them to resize the selection box.

- To set the image size proportionally, enter a width or height in the corresponding box of the dialog. Select the units system in the box below.
- Click on any of the following Transform buttons do any of the following to the image:
  - Flip horizontally 
  - Flip vertically 
  - Rotate 90° Clockwise 
  - Rotate 90° Counterclockwise 

- ♦ Flip horizontally 
- ♦ Flip vertically 
- ♦ Rotate 90° Clockwise 
- ♦ Rotate 90° Counterclockwise 

- Click Next.

*You see the Autodigitizer–Match Color window.*

### Step 3: Color Match

In the Match Color dialog, the original colors of the image (RGB) will be shown in the “colors” column. When you choose the thread palette, the wizard will match these RGB colors to the closest color in the chosen palette.

The Area column shows the percentage of the area of the entire design that is covered by the color in that particular row.



*The design as originally digitized, using 22 thread colors.*

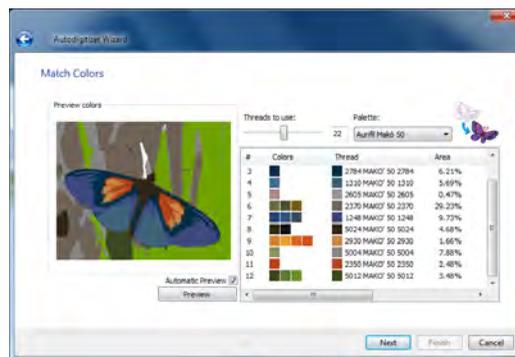
- Select the thread palette you wish to use for the embroidery from the drop-down list at the top of the dialog.
- Select the number of thread colors that will be used to create the autodigitized image by dragging the “Threads to use” slider; left for fewer colors, and right for more colors.

Check the “Automatic Preview” box to automatically update the image as you change the number of colors; or, uncheck the “Automatic Preview” box, and click the “Preview” button manually to see the change in the image.



- To further reduce the number of colors, click and drag color “swatches” (squares) into another color row.

When a color swatch is moved to a new row, the stitches originally assigned to that color (the one that you moved) will be given the new color. In the Area column, you will notice that the percentage is now the sum of the area of the two colors that have been combined.



*Same design as above, but with the number of threads reduced to 12 by manual color matching.*

- After reducing the number of colors to a suitable number, click Next.  
*You see the Automatic Segments window.*

## Step 4: Setting the Automatic Segment widths

The Autodigitizer wizard algorithm will automatically choose different stitch types to apply, depending on the shapes that it encounters 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 Columns (anything larger than a certain defined width will be digitized as a Complex Fill). Which of these three types will be used for the narrow parts of the image will depend on the actual width (in embroidery points) of the color segment to be digitized.

Alternatively, you may choose to generate Artwork, instead of stitches, at this point. (This is the same functionality as used to be in Image Vectorizer Wizard).

To do this, check “Create Artwork Segments”, and press the “Finish” button.



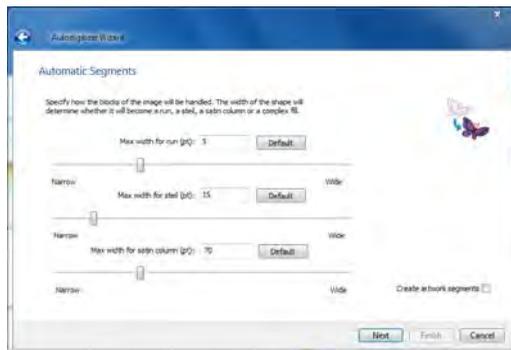
This will bypass the stitch-generation process, and immediately produce a file consisting entirely of outline Artwork segments (but with the colors preserved).

You can then apply whichever stitch types you want to the artwork segment, using the “Convert to...” tool on the ribbon. For more information, see “Applying Stitch Types”.

By default, segments will be digitized as follows:

Width (in the image)	Segment type applied
1–5 points	Run Stitch
6–15 points	Steil Stitch
15–70 points	Satin Column
70 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.



- 1 Drag the sliders for each of the embroidery segment types to determine the maximum width that each stitch type will apply to.

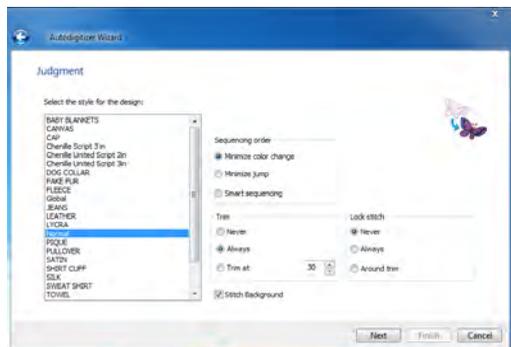
*The chosen width will be displayed in the small boxes above each slider; to return each to its default value, click the Default button.*

- 2 Click Next.

*You see the Judgment window.*

## Step 5: Judgement Settings

This window allows you to change the settings that will be applied to the stitches. Also, there is also the option to digitize the background of the image.



- 1 Select the recipe (style) that is appropriate for the fabric you will be sewing onto.

2 In the Sequence Order area, select one of the following to adjust the sewing sequence:

- ◆ Minimize jump.
- ◆ Minimize color change.
- ◆ Smart sequencing.



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.

3 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.

4 In the Lock Stitch area, select any of the following lock stitch settings:

- ◆ Never.
- ◆ Always.
- ◆ Around Trim.

5 To create stitching of the background, check the “Stitch Background” checkbox. (Check background is off by default).

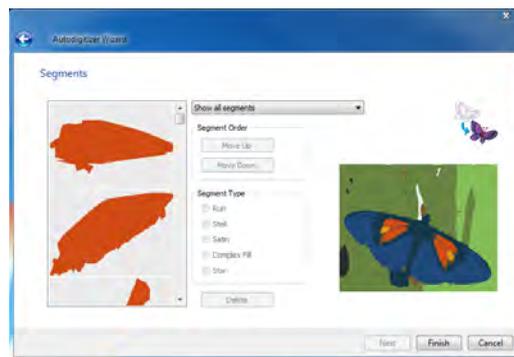
6 Click Next.

*You see the Segments Window.*

## Step 6: Working with Segments

In the Segments window, a complete list of the segments in the design will be shown on the left side of the dialog; use the scroll bar to see all of the segments.

In this window, you can change the sewing order of segments, select which type of segment is shown in the list, and convert segments from one embroidery segment type to another.



1 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.*

2 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.*

3 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.

4 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.

- 5 Click Finish to autodigitize the design and view the design file in the design workspace.



*The Autodigitized Design, complete with stitches.*

## Using the Cross-Stitch Wizard

The Cross-Stitch Wizard is a tool that creates embroidery designs that have a hand-sewn look. Using this step-by-step process, you can generate these stitch files from artwork or image files.



The Cross-Stitch Wizard generates only stitch files, not outlines.

Cross-Stitch Wizard also allows you to edit the image as you go along. You can simplify the by reducing the number of colors it uses (and thereby the number of thread colors required to sew it); you can also edit the image using

an external editing program, from within the Wizard.

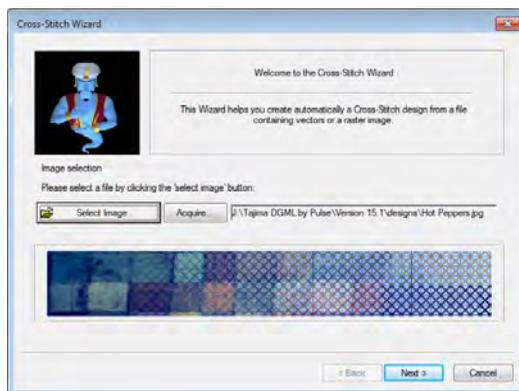
### To use the Cross-Stitch Wizard:

- 1 Do one of the following
  - ◆ Choose File—New.
  - ◆ In the File toolbar, click New.  
*You see the New Document dialog.*
- 2 In the Wizards area, click the Cross-stitch

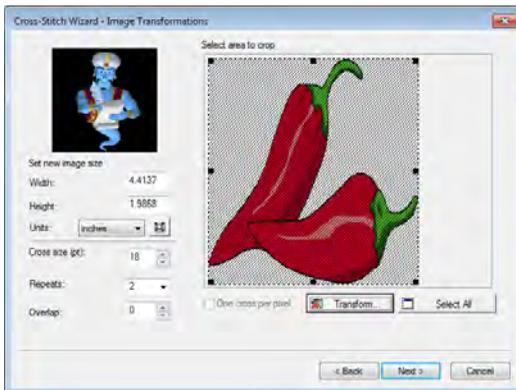


icon

*You see the Cross-Stitch Wizard window.*



- 3 Do one of the following:
  - ◆ Press Select Image to browse for an image file in a directory on your computer.
  - ◆ Press Acquire to obtain an image from an external device such as a camera or scanner.
- 4 In the Look in box, browse to the image file that you want to use as the basis for your design.
- 5 Click next.  
*You see the Cross-Stitch Wizard Image Transformations window, showing a preview of the chosen image.*



- 6 To modify the size of your image, in the Set new image size area, enter a width or height to change the image size proportionately.
- 7 In the Units list, select the type of units you want to work with.
- 8 To reset the image, click the Reset Size  button.
- 9 You can select only the portion of the image you want to use for your cross-stitch design by cropping it. To crop the image:
  - ♦ Place your the mouse pointer over the black dots around the image and drag in the selection box.
  - ♦ If you are unsatisfied with your selection, click Select All to select the entire image again.
- 10 To change cross-stitch parameters, complete the following:
  - ♦ In the Cross size field, edit the cross size parameter.
  - ♦ From the Repeats list, select the number of times you want the embroidery machine to sew over the branches of a single cross-stitch.
  - ♦ In the Overlap field, edit how far you want to extend the diagonal stitches over the edge of the grid box.

- 11 Click Transform to do any of the following to the image:

- ♦ Flip horizontally.
- ♦ Flip vertically.
- ♦ Rotate 90° Clockwise.
- ♦ Rotate 90° Counter-clockwise.
- ♦ Rotate 180°

- 12 Click Next.

*You see the Cross-Stitch Wizard Color Reduction Window.*



- 13 To make the image more manageable as a cross-stitch design, it can be useful to reduce the number of colors in it. To reduce colors:

- ♦ In the Number of colors field, use the up and down arrows to select the total number of colors you want your image to have.
- ♦ In the color palette area, select the color that you want to remove from the palette.
- ♦ Click Delete.  
*You see the color you selected removed from the palette.*
- ♦ To reset the colors in the palette, click the Reset button.

- 14 To add a specific color from the image to the color palette, you use the Dropper tool:

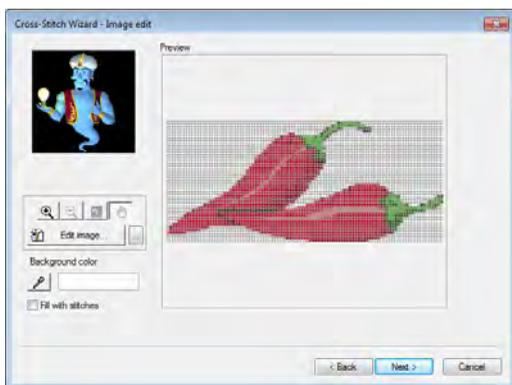
- ◆ Select the Dropper tool .
- ◆ In the image, click on the new colors you want to include in the color palette.

**15** To preview your image:

- ◆ To preview your source image, click the Preview button.  
*You see a preview of your source image after color reduction within the Select the colors area.*
- ◆ To view your original source image, click the Preview button again.

**16** Click next.

*You see the Cross Stitch Wizard Image Edit window, showing a preview of the design as a mosaic of squares.*



**17** To edit the image with your default bitmap image editor:

- ◆ Click the Edit image button.  
*You see the default bitmap editor program open with your image.*
- ◆ In the bitmap editor program, make necessary changes to your image and save your changes.  
*Your mosaic image will be altered to reflect your changes.*

**18** To edit the image with a different external editor:

- ◆ Click the Browse button .

*You see an Open browse window.*

- ◆ In the Open browse window, find the name, file type, and location of the external editor you want to use and click Open.
- ◆ In the editor program, make necessary changes to your image and save your changes.  
*Your mosaic image will be altered to reflect your changes.*

**19** To select a background color for your cross-stitch design:

- ◆ In the Background color area, click the Dropper tool .
- ◆ In the Preview area, click on the color you want to use for the background of your image.

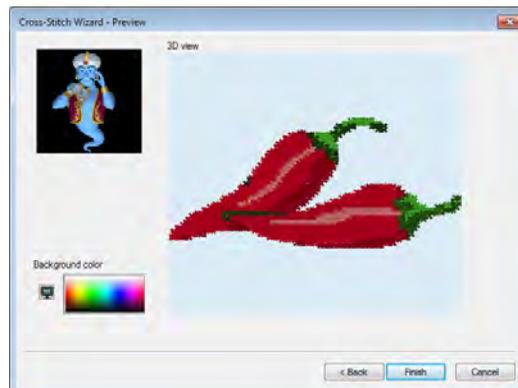
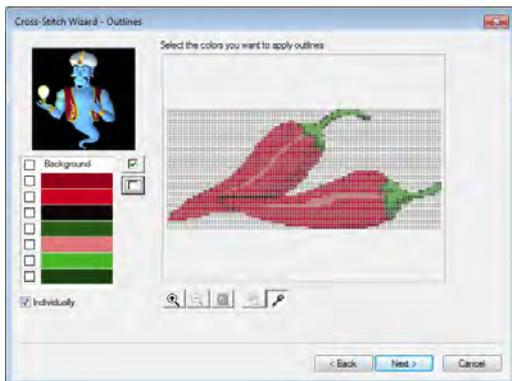
**20** To fill the background of your design with stitches, check the Fill with stitches box.



The background color of your design can be filled with cross-stitches or not. You can also define which color will be the background. Your choices for the background color fill will affect your design.

**21** Click next.

*You see the Cross-Stitch Wizard Outlines window.*



With outlines applied, cross-stitched areas will appear more distinct from each other.



You can define outline areas in two ways: using the dropper tool or using the color palette. You can also adjust the way selected colors are outlined.

**22** To apply outlines to the colors in the design do one of the following:

- ◆ Click the check box next to the colors you wish to apply outlines to.
- ◆ Select the Dropper tool , and click in the areas in the preview image that you wish to apply outlines to.

The "Individually" option determines the way selected colors are outlined. When two colors have been chosen from the palette to be outlined, and areas of these colors are side by side, this option determines if individual areas will be outlined separately.



**23** Click Next.

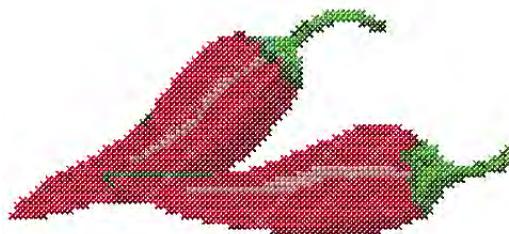
*You see the Cross-Stitch Wizard Preview page, showing how the design will look with stitches applied.*

**24** To select a background color for your design click on the desired place in the color chooser.

*The color appears as the background to your image.*

**25** Click Finish to generate the stitches for your design.

*The design appears in your workspace.*





# CHAPTER 13

## Design Editing in Stitch Mode

When you use the Stitch Select  tool from the Stitch Edit toolbar Tajima DG16 by Pulse automatically changes to Stitch Mode. In Stitch Mode, you can edit stitches in the unified design window.

Stitch-by-stitch editing is easy and you can edit designs in a variety of ways. Use the Navigation bar to move through the stitches of a design. You can move stitch-by-stitch if you want and then select and highlight the exact stitches for editing.



When performing major stitch editing, you should use caution. For more information on the general rules of stitch editing, see "Editing Stitches and Stitch Groups".

You can also edit groups of stitches. Moving portions of a design is simple with the Lasso Stitch Select  tool. You can save time by cutting and pasting stitch groups into other designs. You can combine parts of several designs to create something completely new.

*Topics covered in this chapter:*

- The different ways to move through the design window and how to edit stitch and stitch groups.
- How to group and ungroup stitches.

## Editing Stitches and Stitch Groups

In Tajima DG16 by Pulse's unified window, you can edit a design's stitches and stitch groups while in stitch mode. When you use the Stitch Select  tool, Tajima DG16 by Pulse automatically changes to Stitch Mode.

As a general rule, you should perform all outline edits to a design first (in outline mode) and save the design file. Next, you should perform all stitch edits to the same design (in stitch mode) and save the design file with a different file name. If you follow this general rule, you can avoid possibly losing your stitch edits while doing significant design editing.

A segment's stitch edits may be lost if you perform an outline editing action that forces Tajima DG16 by Pulse to regenerate stitches for the segment. The following are design editing actions that can force stitch regeneration in your design:

- Resizing a segment.
- Modifying the settings for a segment.
- Moving a segment.

Typically, when you add or modify segments in a design, Tajima DG16 by Pulse will not regenerate stitches for the entire design. The software will, however, generate stitches for the segment being modified unless region carving or line carving requires regeneration. If region carving segments require regeneration, segments affected by region carving will be regenerated. If line carving segments require regeneration, segments affected by line carving will be regenerated.

## Selecting Stitches in Various Ways

You can select stitches in a variety of ways.

The Stitch Select  tool allows you to select and modify individual or groups of stitches in your designs. You select stitches by clicking on a single stitch or by clicking and dragging to draw a box around parts of the design. With the Lasso Stitch Select  tool, you can draw a polygon to fit around parts of the design instead of a box.

To change the properties of the selected stitches, right-click and choose **Command** from the menu. This will open the Command dialog, which allows you to change the properties of the selected stitch or stitches.

For more information on the properties of the stitches see "Changing Existing Machine Commands".

The spacebar is a hotkey that toggles between stitch editing using the Stitch Select tool and outline editing using the Select tool. One of these tools must be selected. Use caution while editing stitches and segments. For more information, see "Editing Stitches and Stitches Groups".

### To select stitches with the Stitch Select tool:

- 1 In the Stitch Edit toolbar, click the Stitch Select  tool.
- 2 To select a single stitch, click the stitch you want.
- 3 To select multiple stitches, do one of the following:
  - ♦ Click and drag to form a rectangle box around the stitches you want to select.
  - ♦ Click a stitch at the start of your selection. Press the **Shift** key while you click the stitch at the end of your selection.

To extend the range of selected stitches, press Shift again or Shift+CTRL while you click any stitch outside the range of stitches already selected.

- ◆ Click a stitch. Press **CTRL** while you click each stitch not already selected.  
*Selected Stitches are highlighted.*

### To select stitches using the Lasso Stitch Select tool:

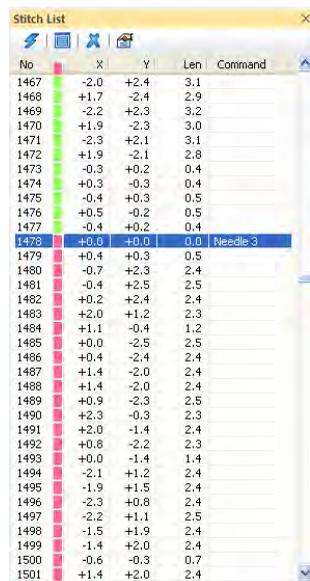
- 1 In the Stitch Edit toolbar, click the Stitch Select  tool.
- 2 In the Stitch Edit toolbar, click the Lasso Stitch Select  tool.
- 3 Click the design workspace to place anchor points in your design.
- 4 Place anchor points around the segments you want to select.
- 5 Right-click to complete your selection.
- 6 In the Stitch Edit toolbar, click the Stitch Select  tool again.  
*The selected stitches are highlighted in black.*

### To select stitches using the Range Select tool:

- 1 Click Range Select  on the ribbon, if not already selected, to turn Range Select mode on.
- 2 Click the stitch at the start of the selection.  
*The selected stitch is highlighted in black.*
- 3 Click the stitch at the end of the selection.  
*The range of stitches selected will be highlighted in black.*
- 4 To extend the range of highlighted stitches, click any stitch outside the range of stitches already selected.
- 5 To turn Range Select mode off, click Range Select  again.

### To select stitches using the Stitch List dialog:

- 1 In the Stitch Edit toolbar, click the Stitch Select  tool.
- 2 Choose View—Toolbars and Docking Windows—Stitch List.  
*You see the Stitch List dialog.*
- 3 Browse through the Stitch List to find the stitches or commands you want to select from the active design file.



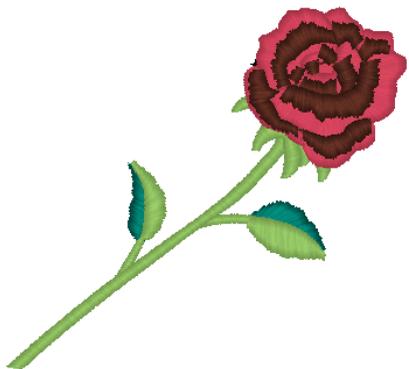
No.	X	Y	Len	Command
1467	-2.0	+2.4	3.1	
1468	+1.7	-2.4	2.9	
1469	-2.2	+2.3	3.2	
1470	+1.9	-2.3	3.0	
1471	-2.3	+2.1	3.1	
1472	+1.9	-2.1	2.8	
1473	-0.3	+0.2	0.4	
1474	+0.3	-0.3	0.4	
1475	-0.4	+0.3	0.5	
1476	+0.5	-0.2	0.5	
1477	-0.4	+0.2	0.4	
1478	+0.0	+0.0	0.0	Needle 3
1479	+0.4	+0.3	0.5	
1480	-0.7	+2.3	2.4	
1481	-0.4	+2.5	2.5	
1482	+0.2	+2.4	2.4	
1483	+2.0	+1.2	2.3	
1484	+1.1	-0.4	1.2	
1485	+0.0	-2.5	2.5	
1486	+0.4	-2.4	2.4	
1487	+1.4	-2.0	2.4	
1488	+1.4	-2.0	2.4	
1489	+0.9	-2.3	2.5	
1490	+2.3	-0.3	2.3	
1491	+2.0	-1.4	2.4	
1492	+0.8	-2.2	2.3	
1493	+0.0	-1.4	1.4	
1494	-2.1	+1.2	2.4	
1495	-1.9	+1.5	2.4	
1496	-2.3	+0.8	2.4	
1497	-2.2	+1.1	2.5	
1498	-1.5	+1.9	2.4	
1499	-1.4	+2.0	2.4	
1500	-0.6	-0.3	0.7	
1501	+1.4	+2.0	2.4	



- 4 To select stitches and commands, click the stitches or commands you want from the list.  
*The stitches you selected are highlighted on the design workspace.*

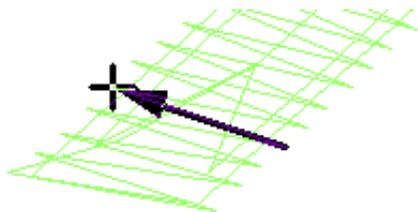
## Deleting Stitches

You can delete stitches in a design file in a number of ways: use the Delete Stitch  tool or Backspace on your keyboard to delete single stitches.



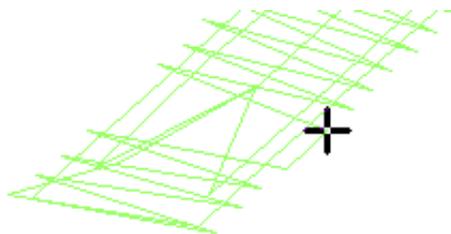
### To delete stitches using the Delete Stitch tool:

- 1 Open a Pulse Embroidery file (\*.PXF) file or any other design file.
- 2 Click the Zoom  tool to zoom in and see the stitch you want to delete.
- 3 In the Stitch Edit toolbar, click the Stitch Select  tool.
- 4 Select the stitch you want to delete.



- 5 In the Stitch Edit toolbar, click the Delete Stitch  tool.  
*The pointer becomes a pencil eraser.*

- 6 Click the stitch you want to delete.

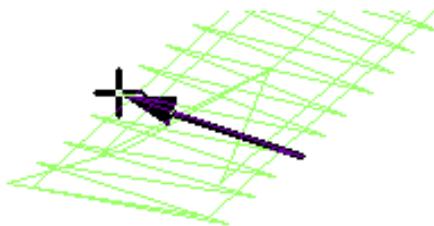


- 7 Continue clicking the stitches to delete multiple stitches.

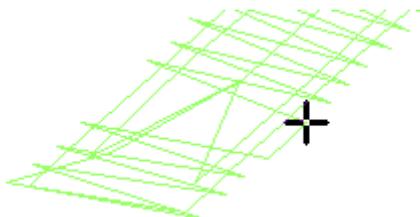
- 8 Click the Stitch Select  tool to return to the stitch mode.

### To delete stitches using Backspace on your keyboard:

- 1 In the Stitch Edit toolbar, click the Stitch Select  tool.
- 2 Select the stitch where you want to start deleting.



- 3 Press backspace on your keyboard.
- 4 Continue to select stitches and press backspace to delete multiple stitches.

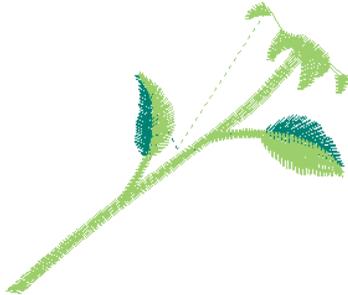


**To delete stitch groups:**

- 1 Select the group of stitches you want to delete.
- 2 Right-click or press Ctrl+E, and choose Delete Group from the menu.

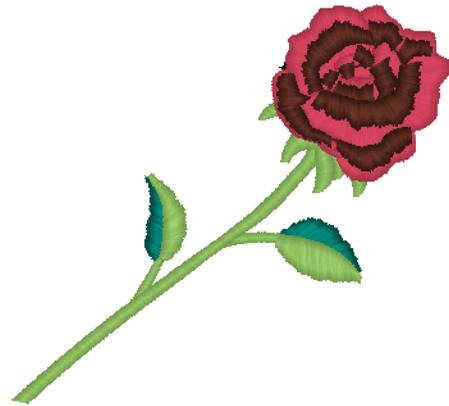


*The stitch group is deleted.*



**Flipping Stitches in a Design File**

You can flip stitches along the horizontal axis using Flip Group. You can resize stitches using Resize Group. Depending how your stitches are grouped, you can choose to group the stitches differently.

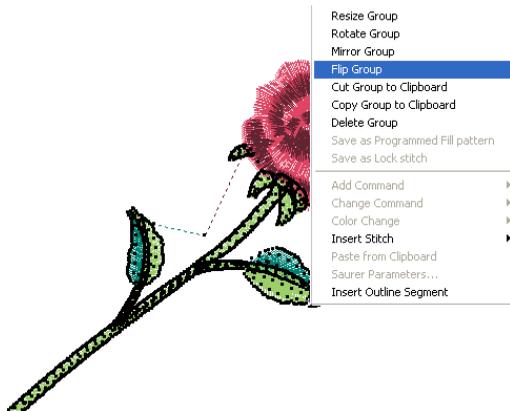


**To flip stitches in a design file:**

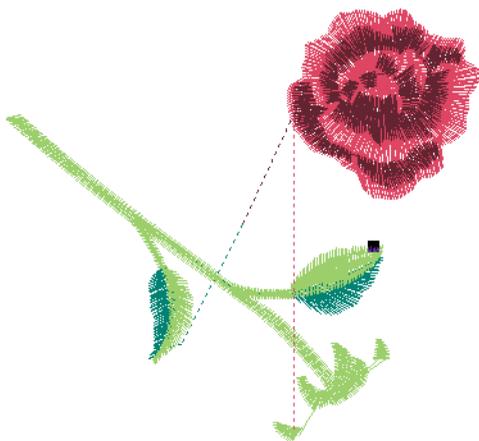
- 1 Select the stitches you want to flip.  
*Selected stitches are highlighted in black.*



- 2 Right-click.  
*You see the shortcut menu.*



- 3 Choose Flip Group from the menu.  
*You see the flipped stitch group.*



## Grouping and Ungrouping Stitches

You can combine several stitches into a group so that the stitches are treated as a single unit. You can then edit a number of stitches without affecting their individual attributes. You must select stitches before you group them. Once stitches are grouped, you have to ungroup them to deselect the stitch group. For example, you might group the stitches in part of a logo design so that you can move and resize those stitches as one unit. In this case, we are going to group the butterflies in this design so that we can move them as one unit and retain their shape and size.



### To group stitches:

- 1 Select the stitches you want to group.



*You see that the stitches are highlighted.*



- 2 Do one of the following:
  - ♦ Choose Segment—Group.
  - ♦ Press Ctrl+G on the keyboard.

*The stitches remain highlighted.*  
*Now, you can edit the group in any number of ways, you can move, resize, rotate, mirror, flip, cut or copy the group.*

### To ungroup stitches:

- Do one of the following:
  - ♦ Choose Segment—Ungroup.
  - ♦ Press Ctrl+G on the keyboard.

*The group is no longer highlighted or grouped together.*

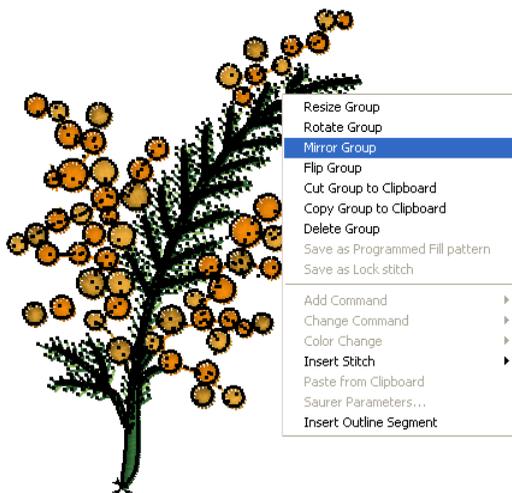
## Mirroring Stitches in a Design File

You can mirror stitches along the vertical axis using Mirror Group. You can resize stitches using Resize Group. Depending on how your stitches are grouped, you can choose to group the stitches differently.



### To mirror stitches in a design file:

- 1 Select the stitches you want.  
*Selected stitches are highlighted in black.*
- 2 Right-click, and choose Mirror Group from the shortcut menu that appears.



You see the mirrored design in the design workspace.



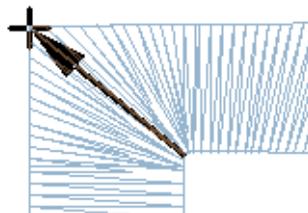
## Moving through Stitch Designs

Use the Navigation bar to move through your Stitch design. The navigation buttons enhance your ability to navigate through your designs by stitches. To use the navigation buttons, you

can left-click to move backwards or right-click to move forwards from selected stitches. You can move through a design by increments of 1, 10, 100 and 1000 stitches or by changing the selection of stitches based on commands and color changes.

### To move through a stitch design by increments:

- 1 Select the stitch you want to view or edit.  
*Selected stitches are highlighted in black.*



- 2 Choose how you want to move through the design:
  - ◆ To move forward through the design, right-click the navigation tool you want to use. Hold down the mouse button to repeat the action rapidly.
  - ◆ To move backward through the design, left-click the navigation tool you want to use. Hold down the mouse button to repeat the action rapidly.
- 3 Right-click or left-click one of the following navigation tools accordingly:
  - ◆ Move by 1  to move by 1 stitch.
  - ◆ Move by 10  to move by 10 stitches.
  - ◆ Move by 100  to move by 100 stitches.
  - ◆ Move by 1000  to move by 1000 stitches.

### To move through a stitch design by commands:

- 1 Select the stitch you want to view or edit.  
*Selected stitches are highlighted.*
- 2 Choose how you want to move through the design:
  - ♦ To move to the next command in the design, right-click the Move to Previous/Next Command  tool. Hold down the mouse button to repeat the action rapidly.
  - ♦ To move to the previous command in the design, left-click the Move to Previous/Next Command  tool. Hold down the mouse button to repeat the action rapidly.

### To move through a stitch design by color:

- 1 Select the stitch you want to view or edit.  
*Selected stitches are highlighted in black.*
- 2 Choose how you want to move through the design:
  - ♦ To move to the next color change in the design, right-click the Move to Previous/Next Color  tool. Hold down the mouse button to repeat the action rapidly.
  - ♦ To move to the previous color change in the design, left-click the Move to Previous/Next Color  tool. Hold down the mouse button to repeat the action rapidly.

### To move to the first and last stitch in a stitch design:

- 1 Select the stitch you want to view or edit.  
*Selected stitches are highlighted in black.*
- 2 Choose how you want to move through the design:

- ♦ To move to the first stitch in the design, left-click the Move to Start/End  tool.
- ♦ To move to the last stitch in the design, right-click the Move to Start/End  tool.

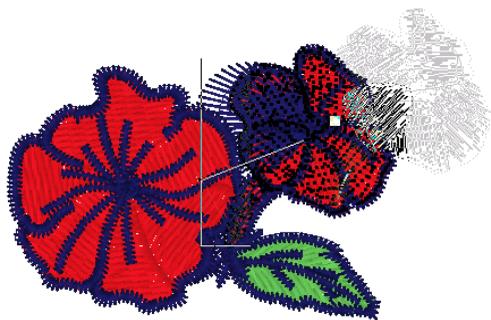
## Moving Stitches in a Design File

You can easily move stitches in a design file using Tajima DG16 by Pulse. Depending on how your stitches are grouped, you can choose to group the stitches differently.

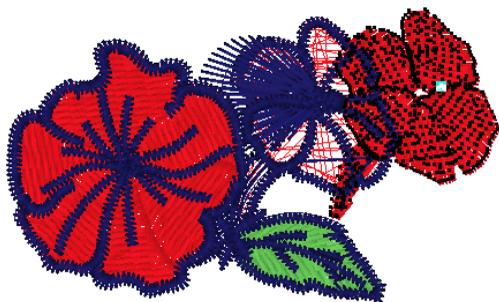


### To move stitches in a design file:

- 1 Select the stitches you want to move.  
*Selected stitches are highlighted in black.*
- 2 Click and drag a stitch that is part of the stitch group.  
*As you move the stitches, you see a floating box that you can move using the mouse. The horizontal (X) and vertical (Y) distance is visible in the status bar.*

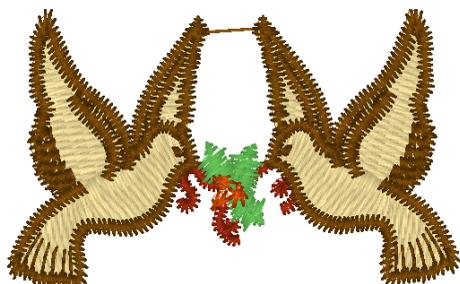


- 3 Release your mouse to place the stitches.  
*The stitches are placed where you moved them.*



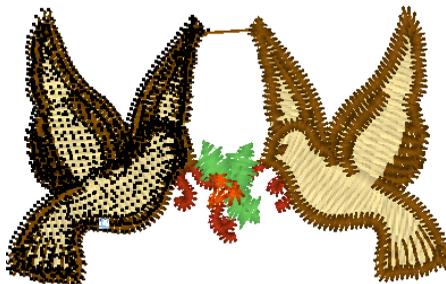
## Moving or Copying Stitches

You can use the Clipboard to move, copy, and paste stitches in your design. You can cut and paste a set of stitches to vary the effect in any design file.



### To cut to the Clipboard:

- 1 Select the stitches you want to cut.  
*Selected stitches are highlighted in black.*



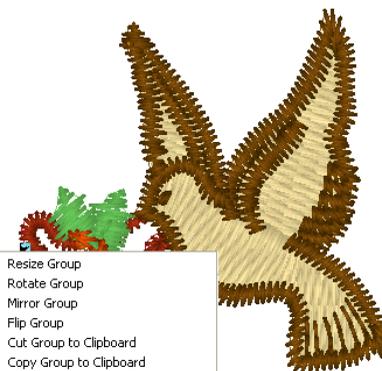
- 2 Right-click and choose Cut Group to Clipboard from the menu.

*The stitch group is removed from its placement.*

- 3 Click where you want to paste the stitches.

- 4 Right-click and choose Paste from Clipboard from the menu.

*The selection is pasted where you wanted.*

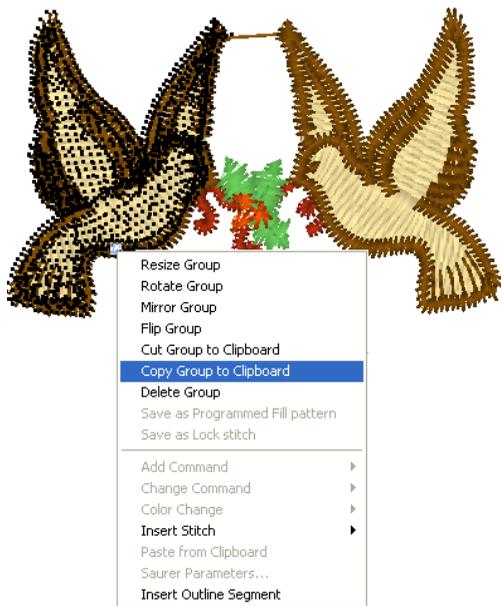


**To copy to the Clipboard:**

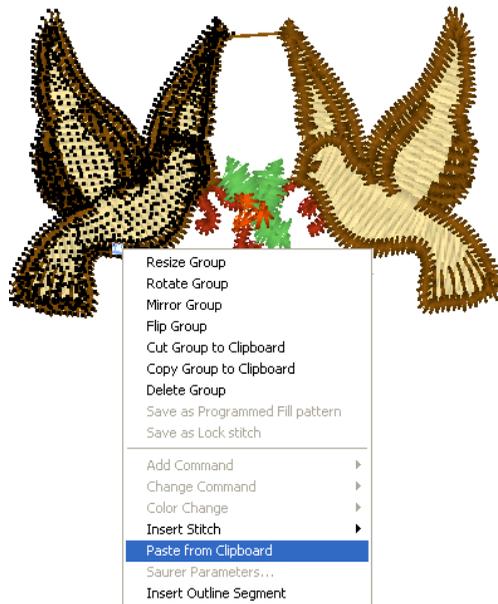
- 1 Select the stitches you want to copy.  
*Selected stitches are highlighted in black.*



- 2 Right-click and choose Copy Group to Clipboard from the menu.

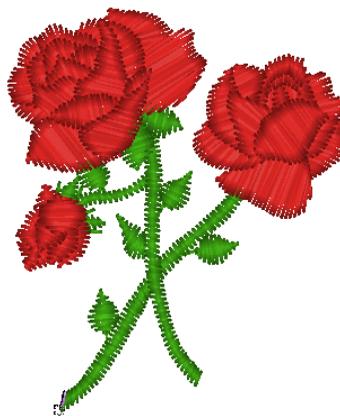


- 3 Click where you want to paste the stitches.
- 4 Right-click and choose Paste from Clipboard from the menu.  
*The selection is pasted where you wanted.*



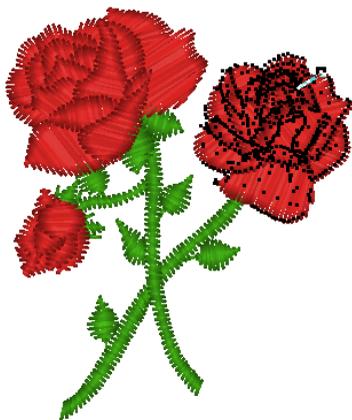
**Resizing Stitches in a Design File**

You can resize stitches using Resize Group. Depending how your stitches are grouped, you can choose to group the stitches differently.

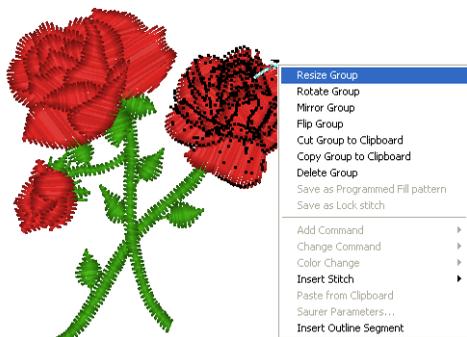


### To resize stitches in a design file:

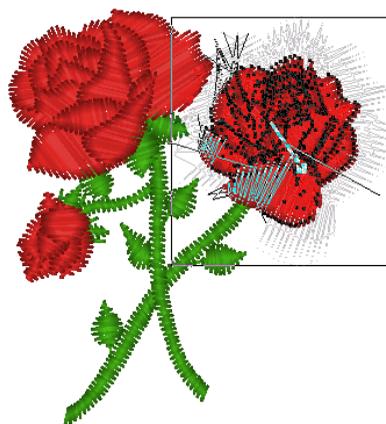
- 1 Select the stitches you want to resize.  
*Selected stitches are highlighted in black.*



- 2 Right-click, or press Ctrl+E, and choose Resize Group from the menu.



*You see a floating box that you can move using the mouse.*



- 3 Right-click the design workspace.  
*You see the Enter Resize Percentage box.*

You can also resize the group choosing Resize Group, and then you move the flexible box with your mouse. The status bar shows the percentage by which you resize the group. Click when you are finished.



To cancel Resize Group, press ESC.

- 4 In the Resize (%) box, enter the percentage value.
- 5 Click OK.

*The stitch group is resized.*



## Rotating Stitches in a Design File

You can rotate stitches using Rotate Group. You can resize stitches using Resize Group. Depending on how your stitches are grouped, you can choose to group the stitches differently.

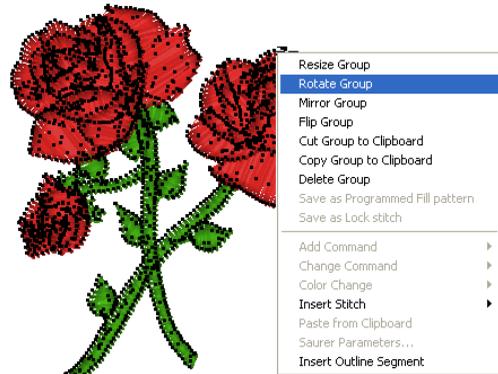


### To rotate stitches in a design file:

- 1 Select the stitches you want.  
*Selected stitches are highlighted in black.*



- 2 Right-click, or press Ctrl+E, and choose Rotate Group from the menu.

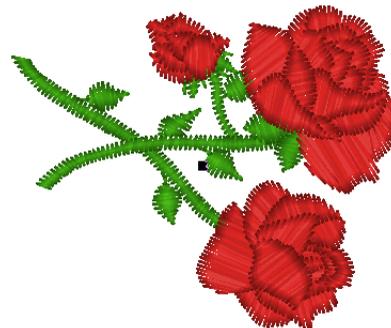


You can also manually rotate the group choosing Rotate Group. The pointer becomes a u-shaped arrow and you move the mouse to rotate the group. The status bar shows the angle by which you rotate the group. Click when you are finished.



To cancel Rotate Group, press ESC.

- 3 Right-click the design workspace.  
*You see the Enter the Degree of Rotation box.*
- 4 In the Degree box, enter the angle by which you want to rotate.
- 5 Click OK.  
*You see the rotated design in the design workspace.*



## Editing Stitches

In Tajima DG16 by Pulse's unified window, you can edit a design's stitches and stitch groups while in stitch mode. When you use the Stitch

Select  tool from the Stitch Edit toolbar, Tajima DG16 by Pulse automatically changes to Stitch Mode.

As a general rule, you should perform all outline edits to a design first (in outline mode) and save the design file. Next, you should perform all stitch edits to the same design (in stitch mode) and save the design file with a different file name. If you follow this general rule, you can avoid possibly losing your stitch edits while doing significant design editing.

A segment's stitch edits may be lost if you perform an outline editing action that forces Tajima DG16 by Pulse to regenerate stitches for the segment. The following are design editing actions that can force stitch regeneration in your design:

- Resizing a segment.
- Modifying the settings for a segment.
- Moving a segment.

Typically, when you add or modify segments in a design, Tajima DG16 by Pulse will not regenerate stitches for the entire design. The software will, however, generate stitches for the segment being modified unless region carving or line carving requires regeneration. If region carving segments require regeneration, segments affected by region carving will be regenerated. If line carving segments require regeneration, segments affected by line carving will be regenerated.

## Adding a Trim

You can add a trim to any stitch segment in a design file. For example, if you are sewing out a name you would want to trim the run stitches between the letters.

### To add a trim:

- 1 Select the stitch adjacent to the point at which you want to add the trim.  
*The selected stitch is highlighted in black.*
- 2 Right-click, or press Ctrl+E.  
*You see a context menu.*
- 3 Choose Command from the menu.  
*The Commands dialog opens.*
- 4 In the Action area of the Commands dialog, do one of the following:
  - ♦ To add the trim after the selected stitch, select the Add radio button.
  - ♦ To replace the currently selected stitch with a trim, select the Replace radio button.
- 5 In the Commands area of the dialog, select the trim radio button.
- 6 Click OK.



If you want to see the trim you added, click the Show Commands  button on the ribbon.

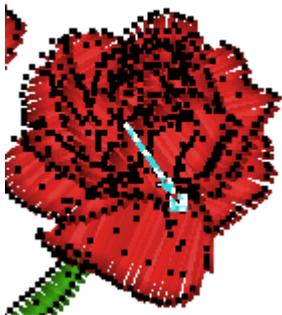
## Changing Thread Colors in Design Files

You can insert a color change that changes the color of the thread from the selected stitch to the end of that layer. When you select Color Change from the shortcut menu, you see a menu of twelve thread numbers. The thread numbers on the menu correspond to the colored boxes on the thread palette.



**To make a thread color change:**

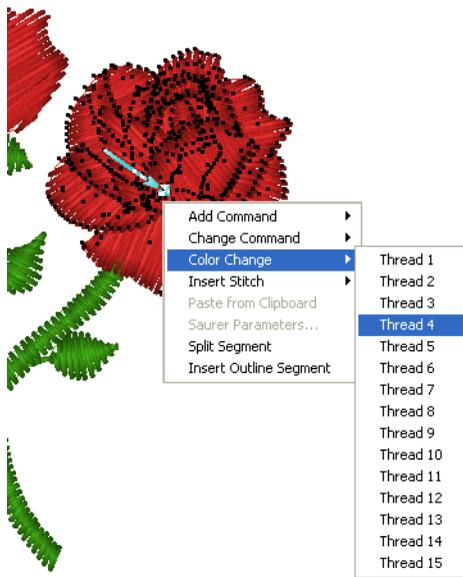
- 1 Click the Zoom  tool to Zoom in on the area where you want to change the thread color.
- 2 In the Stitch Edit toolbar, click Stitch Select  tool.
- 3 Select the first stitch of the segment where you want to insert the color change.



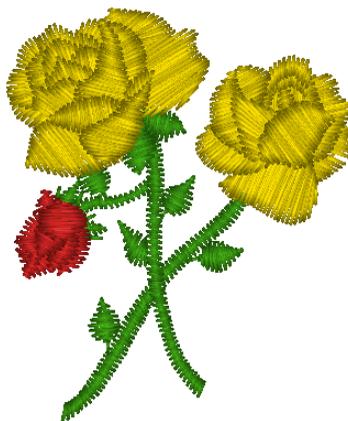
*The black square represents the stitch that needs to be selected.*

- 4 Right-click, or press Ctrl+E, and choose Color Change from the menu.

- 5 Select the thread number you want to change the color to.

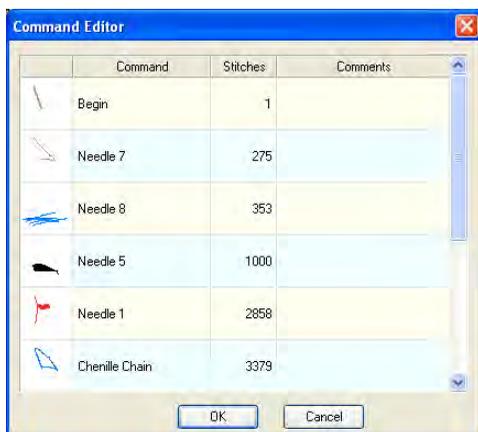


*All the stitches from that point forward change to the thread color number you select.*



## Editing Machine Commands

The Command Editor lists each machine command in the active design file and lets you edit its machine commands. The Command Editor lists the commands visually so that you can see a representation of the stitch group, the command, and the stitch number.



### To edit a command:

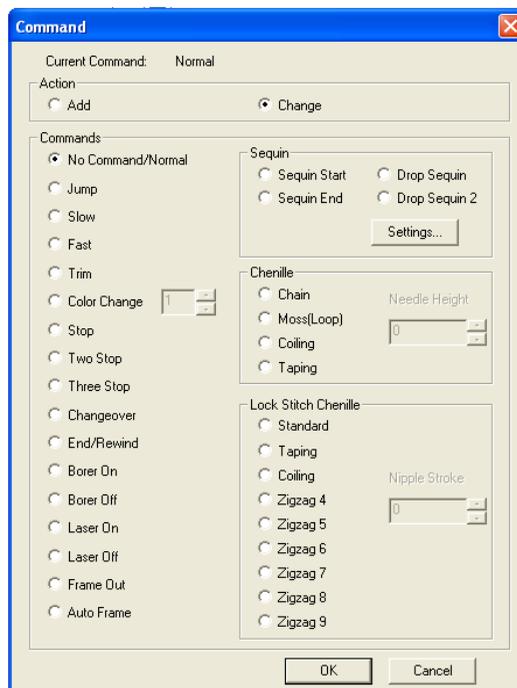
- 1 Choose Segment—Change Commands.  
*You see the Command Editor dialog.*
- 2 In the Command list, select the commands you want to edit.
- 3 Edit the commands accordingly.
- 4 Click OK.

### To inactivate a command:

- 1 Choose Segment—Change Commands.  
*You see the Command Editor dialog box.*
- 2 In the Command list, select the commands you want to make inactive.
- 3 For each command, click Normal from the list.
- 4 Click OK.

## Inserting Machine Commands

You can insert embroidery machine commands for a specific stitch. Although Tajima DG16 by Pulse inserts jumps and stops where they are required, you may choose to insert additional machine commands where you want, through the Command dialog.



The Add Command feature allows you to insert a machine command directly after a selected stitch.



Not all commands apply to every machine or all levels of the software.

### To insert a machine command:

- 1 Select the stitch you want to edit.  
*The stitch becomes highlighted.*
- 2 Right-click the stitch.  
*You see the shortcut menu.*

- 3 Select Command from the menu.  
*You see the Commands dialog box.*
- 4 In the "Action" area, select **Add**.
- 5 Choose one of the following from the dialog:
  - ♦ **Slow** signals the embroidery machine to sew out designs slowly.
  - ♦ **Fast** signals the embroidery machine to sew out designs quickly. Modern machines do not need you to set the Slow and Fast settings.
  - ♦ **Trim** inserts a trim at the selected stitch.
  - ♦ **Jump** inserts a jump stitch at the selected stitch, instead of dropping the needle when the design is sewn out.
  - ♦ **Stop** inserts a machine stop at the selected stitch. A stop can also represent a color change.
  - ♦ **Two Stops** inserts two stops in sequence. This command is used for special functions on machines such as a Chenille machine.
  - ♦ **Three Stops** inserts three stops in sequence.
  - ♦ **End/Rewind** signals the end of a design. The End/Rewind setting is rarely used because Tajima DG16 by Pulse places an End command at the end of a design.
  - ♦ **Borer On** starts the boring device.
  - ♦ **Borer Off** stops the boring device. See "Boring fabric" for more information.
  - ♦ **Changeover** starts and stops a sequin device or laser cutter on specified embroidery machines.
  - ♦ **Sequin Start** starts the sequin device on specified embroidery machines.
  - ♦ **Sequin End** stops the sequin device on specified embroidery machines.
  - ♦ **Drop Sequin** drops a sequin at the selected stitch.

- ♦ Frame Out moves the embroidery machine's frame out while making adjustments to the item being embroidered.
- ♦ **Laser On** starts the laser cutter on specified embroidery machines.
- ♦ **Laser Off** stops the laser cutter on specified embroidery machines.

## Changing Existing Machine Commands

You can change embroidery machine commands for a specific stitch. Although Tajima DG16 by Pulse inserts jumps and stops where they are required, you may choose to change an existing machine command. You do this by selecting a stitch and then opening the Command dialog



Not all commands apply to every machine or all levels of the software.

### To change an existing machine command:

- 1 Select the stitch you want to edit.  
*The stitch becomes highlighted.*
- 2 Right-click the stitch.  
*You see the shortcut menu.*
- 3 Select Command from the menu.  
*You see the Commands dialog box.*
- 4 In the "Action" area, select **Change**.
- 5 Select one of the following from the dialog:
  - ♦ **Normal** changes the stitch to a standard stitch.
  - ♦ **Slow** signals the embroidery machine to sew out designs slowly.
  - ♦ **Fast** signals the embroidery machine to sew out designs quickly. Modern machines do not need you to set the Slow and Fast settings.
  - ♦ **Trim** inserts a trim at the selected stitch.

- **Jump** inserts a jump stitch at the selected stitch, instead of dropping the needle when the design is sewn out.
- **Stop** inserts a machine stop at the selected stitch. A stop can also represent a color change.
- **Two Stops** inserts two stops in sequence. This command is used for special functions on machines such as a Chenille machine.
- **Three Stops** inserts three stops in sequence.
- **End/Rewind** signals the end of a design. The End/Rewind setting is rarely used because Tajima DG16 by Pulse places an End command at the end of a design.
- **Borer On** starts the boring device.
- **Borer Off** stops the boring device.
- **Changeover** starts and stops a sequin device or laser cutter on specified embroidery machines.
- **Sequin Start** starts the sequin device on specified embroidery machines.
- **Sequin End** stops the sequin device on specified embroidery machines.
- **Drop Sequin** drops a sequin at the selected stitch.
- **Frame Out** moves the embroidery machine's frame out while making adjustments to the item being embroidered.
- **Laser On** starts the laser cutter on specified embroidery machines.
- **Laser Off** stops the laser cutter on specified embroidery machines.

## Using the Stitch List

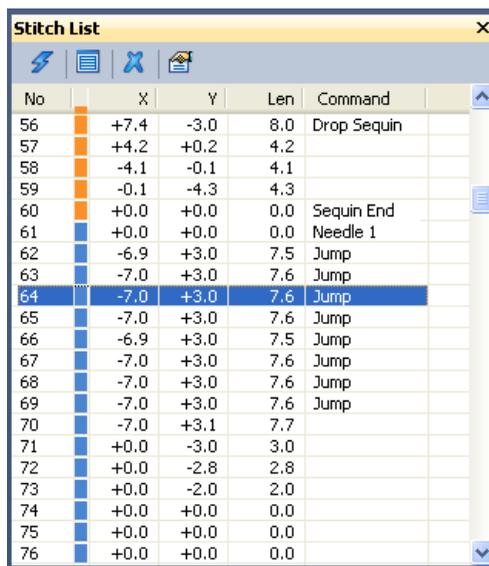
The Stitch List is a new dockable panel that lists all the stitches in the current design, arranged in the sewing order.

The stitch list is a very useful table, that fulfills the following functions:

- It displays the properties of each stitch
- Allows you to select individual stitches (or groups of stitches).
- Allows you to erase stitches, or groups of stitches
- There is a filter tool, which allow you to filter stitches by length or command.

## Properties on the Stitch List

For each stitch, the color, horizontal and vertical displacements (X and Y), and overall length are displayed in table form in the Stitch list.



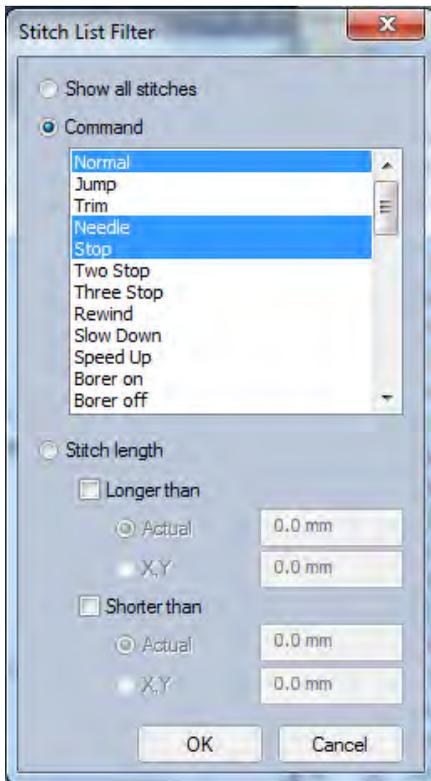
No	X	Y	Len	Command
56	+7.4	-3.0	8.0	Drop Sequin
57	+4.2	+0.2	4.2	
58	-4.1	-0.1	4.1	
59	-0.1	-4.3	4.3	
60	+0.0	+0.0	0.0	Sequin End
61	+0.0	+0.0	0.0	Needle 1
62	-6.9	+3.0	7.5	Jump
63	-7.0	+3.0	7.6	Jump
64	-7.0	+3.0	7.6	Jump
65	-7.0	+3.0	7.6	Jump
66	-6.9	+3.0	7.5	Jump
67	-7.0	+3.0	7.6	Jump
68	-7.0	+3.0	7.6	Jump
69	-7.0	+3.0	7.6	Jump
70	-7.0	+3.1	7.7	
71	+0.0	-3.0	3.0	
72	+0.0	-2.8	2.8	
73	+0.0	-2.0	2.0	
74	+0.0	+0.0	0.0	
75	+0.0	+0.0	0.0	
76	+0.0	+0.0	0.0	

The final column of the stitch list displays the command (if any), that is applied at that particular stitch (e.g. a jump, trim, drop sequin, etc.). If the stitch is just a regular stitch, this column is left blank.

## Applying a Filter

Another very useful function of the stitch list is that it can filter the stitches - that is, you can choose to have the list display only those stitches that match certain criteria that you

set. You do this by clicking on the Filter  button, which opens the Stitch List Filter Dialog:



In the filter dialog, you can select to filter the stitches either by Command or by Stitch length.

**Filtering by Command:** Select the 'Command' radio button. Filtering by command can apply to any stitch that has a command associated with it, such as a jump, trim, stop,

etc. You can select several command types, by clicking on them; the selected commands will be outlined in blue. (To deselect a command, click it again). Press the OK button to apply the filter.

**Filtering by Stitch Length:** Select the Stitch Length radio button - this will make the Longer than and Shorter than selection boxes active. Choose "Longer than" or "Shorter than", and type a stitch length in the selection boxes. Or, choose both to select a range of lengths between the longest and shortest length that you specify.



Note that there are two ways to define the stitch length - either by the actual, absolute length of the stitch, or by the vertical/horizontal displacement of the stitch (select the "X,Y" radio button).

To go back to displaying all the stitches in the design, click the Show all  button.

## Deleting a stitch

You can use the Stitch List buttons to delete a stitch, or a number of stitches, in the open design. This is done by selecting the individual stitches that you want to remove, and clicking the Delete button.

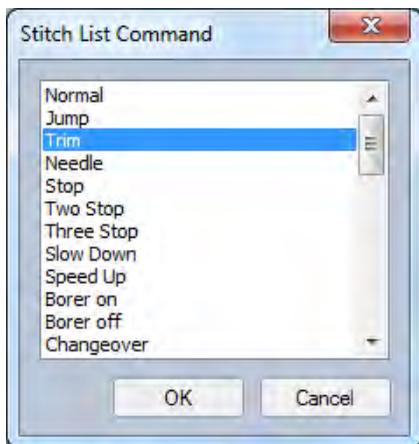


To select a range of consecutive stitches, so that you can delete them all at once, click on the first stitch in the series to select it. Then **Shift** + click on the final stitch you want to delete.

To select more than one non-consecutive stitch, click while holding down **Ctrl**.

## Changing a Command

The Stitch list also features a Change command  button, which allows you to select a stitch and change the associated command. When you click on this button, it opens the following dialog:



To assign a command to the selected stitch, select the command from the dialog window, and click OK in the dialog.

## Laser Cutting Fabric in Stitch Mode

Using the Changeover or Laser On/Off commands you can cut fabric with a laser cutter on a Tajima or another specified machine.

### Basic rules

- To switch from a needle to the laser, the design needs a normal color change (or Stop) command. You assign the laser to a color change by using the Tajima control panel.
- If the laser cutter is on, the Changeover or Laser Off command stops it. If the laser

cutter is off, the Changeover or Laser On command starts it.

- If the laser is used in the middle or at the beginning of the design, it is good practice to have the machine move the hoop and stop so that the operator can pull off all the cut material. You can do this by adding an extra stop command after the color change.

### To cut fabric with a laser cutter:

- 1 Create a new design or open an existing design.
- 2 In the Stitch Edit toolbar, click the Stitch Select  tool.
- 3 Select the last stitch before the stitch you want to be used for laser cutting.
- 4 Do one of the following, depending on your embroidery machine:
  - ♦ Add a Changeover Command.
  - ♦ Add a Laser On Command.

*This command will start the laser after the selected stitch.*
- 5 Select the last stitch before the stitch you want to be used for laser cutting.
- 6 Do one of the following, depending on your embroidery machine:
  - ♦ Add a Changeover Command.
  - ♦ Add a Laser Off Command.

For more information, see “Inserting Machine Commands”.

*This command will stop the laser after the selected stitch.*



After you add changeover commands to stitches, you should insert color changes as well. The laser cutter must be assigned a different needle for the rest of the design.

- 7 When finish creating your design, output your design to your embroidery machine.

- At the embroidery machine, assign the thread you chose for color change to the needle with the laser cutter attached. When you sew your design on the embroidery machine, your design will be sewn accordingly using the laser cutter.

## Inserting a Stitch

You can insert one or more stitches into a design file.

### To insert a stitch:

- Open a Pulse Embroidery file (\*.PXF) or any other design file.



To undo the stitches you added, press **BACKSPACE** on your keyboard.

- Select the stitch that will have stitches inserted before or after.  
*The stitch becomes highlighted.*
- Right-click, or press Ctrl+E, and choose one of the following:
  - Choose Insert Stitch—Before to insert the stitch before the highlighted stitch.
  - Choose Insert Stitch—After to insert the stitch before the highlighted stitch.

## Removing Short Stitches from Designs

You can remove short stitches from a Pulse Embroidery file (\*.pxf) or any other design file.

### To remove short stitches:

- Choose Edit—Autoclean Stitches.  
Tajima DG16 by Pulse *removes short stitches in your design.*

## Splitting a Stitch Segment

You can split a stitch segment into two segments.

You can also split other types of segments, such as Column or Tatami segments. First, you must convert the segments into stitch segments and then split the stitch segments.

### To split a Stitch Segment:

- Select the stitch that will divide the stitch segment into two segments.  
*The stitch and area of the segment above or below it becomes highlighted.*
- Right-click, or press Ctrl+E, and choose Split Segment.  
*The segment will be split into two separate stitch segments immediately after the selected stitch.*

## Converting Embroidery to Art Segments

Tajima DG16 by Pulse allows you to convert stitch segments into art segments. Outline changes made to any part of the design will not affect stitch segments. You cannot perform any outline editing on stitch segments except to resize, reflect, rotate, and change the color of these stitch segments. If you convert stitch segments to art segments, however, you can work with segment lines like any other artwork.

### To convert stitch segments into art segments:

- Select the segment you want converted into an art segment.
- Do one of the following:

- ♦ Click Convert  on the ribbon and choose Art segment from the shortcut menu.
- ♦ Press = and choose Art segment from the shortcut menu.
- ♦ Right-click, or press Ctrl+E, and choose Convert Stitch Segment to—Art segment from the shortcut menu.

*segment that will split into two stitch segments.*

- 3 Punch one or more new segments.  
*These new segments will be sequenced between the two stitch segments.*
- 4 To turn off Insert mode, press Insert on your keyboard.

## Inserting Outline Segments

Tajima DG16 by Pulse allows you to add segments in the middle of an existing segment using Insert Outline Segment. For example, when you open a \*.DST file, you can easily add an outline segment at any point in the design.

When you choose the Insert Outline Segment option, you switch from Stitch mode to Outline mode. Insert mode will automatically be turned on and any segment you create at this point will be sequenced between the two stitch segments. The Insert Outline Segment option becomes especially useful when sewing out your embroidery designs.

### To insert an outline segment:

- 1 Select the stitch you want to insert an outline segment after.  
*The stitch becomes highlighted.*
- 2 Do one of the following:
  - ♦ Right-click, and choose Insert Outline Segment.
  - ♦ Press Insert on your keyboard.  
*You will switch into Outline mode. Insert mode will automatically be turned on and all segments after the highlighted stitch are grayed out.*  
*The segment containing the highlighted stitch will be converted into a stitch*

# CHAPTER 14

## Design Editing in Outline Mode

When you use the Select  tool from the Edit toolbar, Tajima DG16 by Pulse automatically changes to Outline Mode. In Outline Mode, you can edit outline segments in the unified design window, as well as move and duplicate segments. Use Power Edit to perform multiple tasks, such as Resize, Rotate and Flip, in one easy step. With fast access to the property pages, you can modify various stitch properties such as stitch type and thread color for any segment.



When performing major outline editing, you should be careful of how other segments will be affected. For more information on the general rules of editing segments, see "Editing Segments".

### *Topics covered in this chapter:*

- Using the Auto Color Blend function to blend thread colors in one segment.
- Different ways to move through a design window.
- How to edit, copy and move segments.
- Sequencing outline segments to change the sewing order of designs.

## Editing Segments

In Tajima DG16 by Pulse's unified window, you can edit a design's individual or grouped outline segments while in outline mode. When you use the Select  tool from the Edit toolbar, Tajima DG16 by Pulse automatically changes to Outline Mode.

As a general rule, you should perform all outline edits to a design first (in outline mode) and save the design file. Next, you should perform all stitch edits to the same design (in stitch mode) and save the design file with a different file name. If you follow this general rule, you can avoid possibly losing your stitch edits while doing significant design editing.

A segment's stitch edits may be lost if you perform an outline editing action that forces Tajima DG16 by Pulse to regenerate stitches for the segment. The following are design editing actions that can force stitch regeneration in your design:

- Resizing a segment.
- Modifying the settings for a segment.
- Moving a segment.

Typically, when you add or modify segments in a design, Tajima DG16 by Pulse will not regenerate stitches for the entire design. The software will, however, generate stitches for the segment being modified unless region carving or line carving requires regeneration. If region carving segments require regeneration, segments affected by region carving will be regenerated. If line carving segments require regeneration, segments affected by line carving will be regenerated.

## Selecting Segments

The Select  tool allows you to select and modify individual or groups of outline segments. You select outline segments by clicking on a single segment or by clicking and dragging to draw a box around parts of the design. When the Select tool is active and Show Dots (outline dots)  is selected, you see only the anchor points of the segment. To view outline dots, right-click Show Dots on the ribbon and select Outline Dots, if not already selected.

With the Lasso Select  tool, you can draw a polygon to fit around parts of the design instead of a box.

You can select an individual segment using the Vertex Select  tool and then select its anchor and direction points.



In order to be able to select segments with the Vertex Select tool, this setting must be enabled in the User Settings; select Tools–Configuration–Environment to do this.

Segments may also be selected with the Edit Envelope  tool Segment Edit toolbar. This tool allows you to change the shape of the envelope around any outline segment; you can select any handle on an outline segment and move it around independent of the others. You can also select individual segments using the Angle Lines  tool and then select beads and angle lines. The Range Select  tool allows you to select a range of segments as you navigate through a design.

Once you select an outline segment, you can change its properties using associated context menus and property pages as well as the bead attached to the segment's selection box. You

can move, duplicate, resize, rotate, reflect, skew, stretch, compress, or delete selected segments.

### To select segments using the Select tool:

- 1 In the Edit toolbar, click the Select  tool.
- 2 To select one segment, do one of the following:
  - ◆ Click the segment you want to select.
  - ◆ Click and drag to select the segment you want.

*The active segment is enclosed in a selection box with handles.*

- 3 To select multiple segments, do one of the following:
  - ◆ Click and drag across all the segments you want to select.
  - ◆ Click a segment at the start of your selection. Press **Shift** while you click the segment at the end of your selection. To extend the range of selected segments, press Shift again or Shift+CTRL while you click any segment outside the range of segments already selected.
  - ◆ Click a segment. Press CTRL while you click each segment not already selected.

*The active segments are enclosed in a selection box with handles.*



To see selected segments clearly in a design with many segments, you should have Show

Dots  and Show Beads  selected.

- 4 To edit or change the properties of the segments, open the Selection settings in the Properties panel.

### To select segments using the Lasso Select tool:

- 1 In the Edit toolbar, click the Lasso  tool.

- 2 Click in the workspace to place points around the segments you want to select.
- 3 Right-click to complete your selection.  
*The active segments are enclosed in a selection box with handles.*



To see selected segments clearly in a design with many segments, you should have Show

Dots  and Show Beads  selected.

### To select an individual segment using the Vertex Select tool:

- 1 In the Edit toolbar, click the Vertex Select  tool.
- 2 Click the segment you want to select.  
*The active segment is enclosed in a selection box with handles.*
- 3 Alter the segment's anchor and direction points accordingly.



In order to select segments with the Vertex Select tool, you must first check the appropriate checkbox in the Environment page of the User Settings dialog. For further information, see [Setting User Preferences—Environment Settings](#).

### To select an individual segment using the Angle Lines tool:

- 1 In the Edit toolbar, click the Angle Lines  tool.  
*Your cursor becomes a triangle with a bead.*
- 2 Click the segment you want to select.  
*The active segment is enclosed in a selection box with handles and you can now view the active segment's angle lines.*

- Alter the segment's beads and angle line beads accordingly. For more information on working with beads and angle line, see the "Working with Beads" section.



In order to select segments with the Angle Lines tool, you must first check the appropriate checkbox in the Environment page of the User Settings dialog. For further information, see Setting User Preferences—Environment Settings.

### To select segments using the Range Select tool:

- Click Range Select  on the ribbon, if not already selected, to turn Range Select mode on.
- Click the segment at the start of the selection.  
*The selected segment will be enclosed in a selection box with handles.*
- Click the segment at the end of the selection.  
*The range of segments selected will be enclosed in a selection box with handles.*
- To extend the range of selected segments, click any segment outside the range of segments already selected.
- To turn Range Select mode off, click Range Select  again.

## Aligning Segments

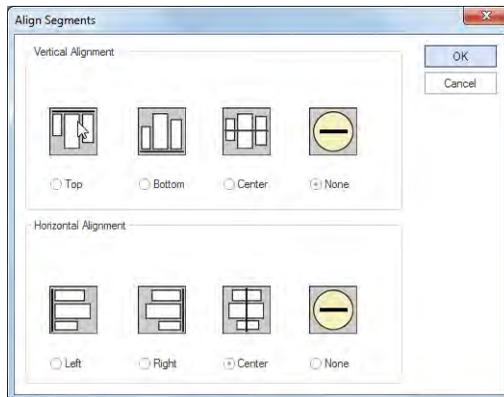
You can align lettering or segments horizontally or vertically. For example, you can use this feature to precisely align text at the center of a design.

### To align segments:

- Using the Select  tool, click and drag to select the segments you want to align.

- Select the Align  tool.

*You see the Align Segments dialog.*



- In the Vertical Alignment area, select Top, Bottom, Center or None.  
*If you select Center, the segments will be aligned vertically along the center.*
- In the Horizontal Alignment area, select Left, Right, Center or None.  
*If you select Center, the segments will be aligned horizontally along the center.*
- Click OK.  
*You see the segment altered accordingly.*

## Align to Segment

The Align to Segment feature allows you to select a segment, and then fix its alignment relative to a second segment. The two segments will then stay in alignment through any kind of transformation.

The Align to Segment dialog allows you to set the orientation of the selection with respect to the Reference segment, and to enter vertical and horizontal offsets between them.

### To align a segment to another segment:

- Select a segment, and right-click.  
*You see the context menu.*

- 2 Select Transform—Align to segment.  
*This segment will remain selected.*
- 3 Click on the segment you want to align the first segment to (this becomes the Reference segment).



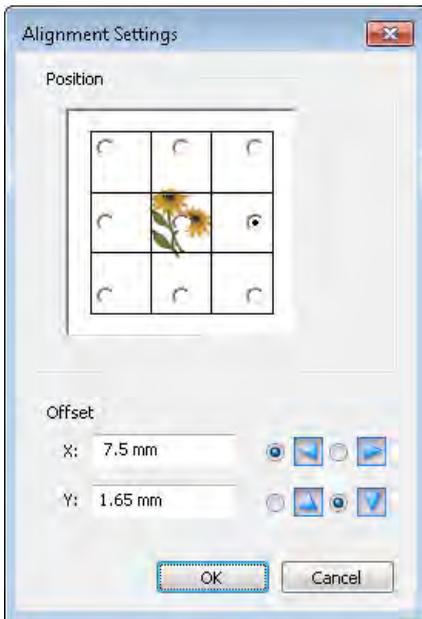
If there are a number of overlapping segments in the design, you may have to click several times to “cycle through” them until the correct one is selected.

- 4 Right-click, or press Enter, to complete the selection of the Reference segment.



Which of these two actions is required depends on your Environment settings; see Setting up Tajima DG16 by Pulse—User Preferences—Environment settings.

*You see the Alignment settings dialog.*



- 5 Select the orientation of the aligned segment with respect to the Reference segment by the appropriate radio button on the grid; center imager represents the position of the Reference segment.
- 6 In the Offset area, enter the horizontal (X) and vertical (Y) offset of the aligned segment from the Reference; click the radio buttons to the right to indicate the direction of offset.
- 7 Click OK.  
*The Segment Align dialog will close. The segments will now be aligned as indicated.*



To modify the alignment later, right-click on the aligned segment again, and select Transform—Alignment Settings. This will re-open the settings dialog, allowing you to change the orientation and/or offset.

To remove the alignment completely, select Transform—Clear Alignment.

## Using Edit Envelope

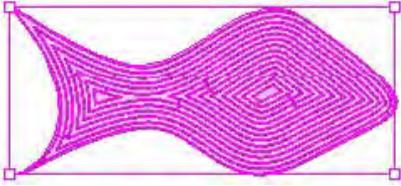
Outline segments will be enclosed in a “selection box” when they are selected in Outline mode. The sides of this box are determined by the furthest horizontal and vertical extents of the segment.

There are also four “corner handles” on the selection box. Using the Edit Envelope tool, you can click and drag these handles, changing the overall shape of the box. Then, after you regenerate the stitches, the segment will be re-shaped so that it fits the new frame. This is a quick way to stretch or compress an existing segment.

### To change a segment with the Edit Envelope tool:

- 1 Select the Edit Envelope  icon.

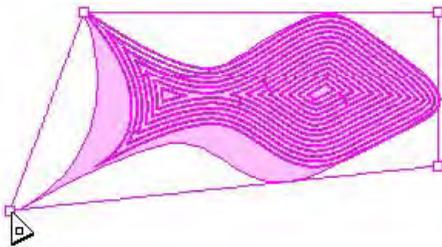
- Click on the segment you want to change.  
*The active segment is enclosed in a selection box with handles.*



The Edit Envelope tool also works if you have selected a number of segments in the design; in this case, the segments will be temporarily grouped, they will all be surrounded by a single selection box, and any change to the shape will affect all of them. Once deselected, they will go back to being individual segments.



- Move the mouse pointer over on the envelope's corner handles.  
*The pointer becomes an arrowhead with a small square enclosed in it.*
- Click and drag the handles to change the shape of the selection box.



- Press G to regenerate stitches.  
*The segment will take on the new shape.*

After you regenerate the segment, the handles of selection box will remain where you have left them. If you want to reset the selection box to be rectangular again, right-click and choose "Reset handles".



## Applying an Envelope to a Segment

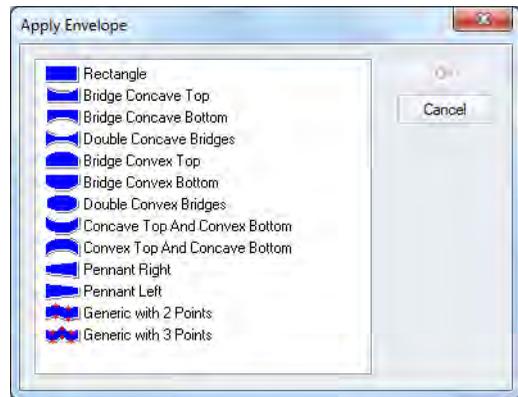
You can apply envelopes to segments to change the shape of the segment. The Apply Envelope  tool allows you to choose one of a list of predetermined shapes to apply your stitch or vector artwork segments.

Envelopes can also be applied to text. For text, however, the envelope shape is selected from the Envelope field in the Properties panel. See "Changing the shape of lettering using envelopes".



### To apply envelopes:

- Select the segment.
- Click on the Apply Envelope  icon on the Transformation toolbar.  
*You see the Apply Envelope dialog.*



- Choose the envelope you want to use.  
*You see the segment altered accordingly.*

## Reducing Nodes

Sometimes when an outline segment is modified (especially by resizing), the resulting segment will have more nodes than it needs. The Reduce nodes function recalculates the outline segment so that it has only the

minimum number of nodes to determine the outline shape.

Reduce nodes can be applied to any shape created with outlines. This includes segments made with any punching tool, as well as vector artwork segments. Reduce nodes does not apply to stitch segments or lettering. For more information about nodes, see “Using Paths”.

### To reduce nodes for a segment:

- 1 Select a segment.
- 2 In the Artwork Tools toolbar, click on the Reduce nodes  tool.

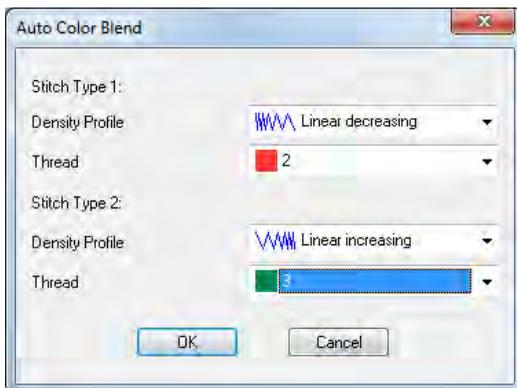
## Blending Thread Colors in one Segment

Use Auto Color Blend to combine two thread colors in one segment. You can select two colors and separate density profiles for one segment. This feature is available for Column, Satin Path, and Complex Fill segments.

### To use Auto Color Blend:

- 1 Select a segment.
- 2 Right-click, and select Auto—Color Blend from the menu.

*You see the Auto Color Blend dialog*



### 3 Do the following steps:

- ♦ In the Density Profile boxes, select the profile that best suits your needs.
- ♦ In the Thread colors boxes, select the thread colors you want to blend.

*The Density Profile controls how the stitches will be blended.*



For best results, choose opposite density profiles for the two thread colors. For example, choose Linear Increasing for one color and Linear Decreasing for the other color.

### 4 Click OK.

*The segment now has two colors.*

## Creating Offsets

You can create an offset based on the shape of the original segment. Creating an offset is especially useful in Chenille designs where chain walks are used to outline moss stitches. You can create an offset from open or closed paths. The Offset tool is useful when you want to create an outline of the original segment at a regular distance. Offsets can be added to one or both sides of a segment.

### Notes

- When you use the Specify distance setting for closed paths, a positive number creates an offset inside the original segment. A negative number creates an offset outside the original segment.
- When you use the Specify distance setting for open paths, a positive number creates an offset to the right of the original segment. A negative number creates an offset to the left of the original segment.
- When creating offsets of multiple segments at the same time, you can make them into a continuous outline by enabling the “Merge offset shapes” setting.

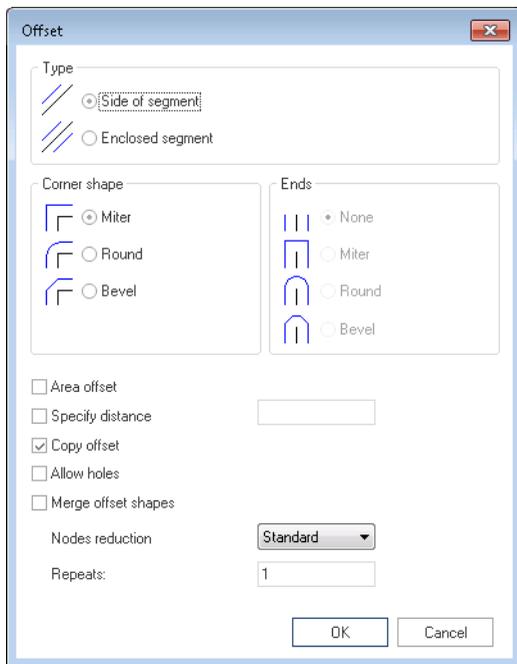
## To create offsets:

- 1 Select the path segment for which you want to create an offset.
- 2 Select the Offset  tool.



You can also open the Offset dialog by pressing Ctrl+O on the keyboard.

*You see the Offset dialog.*

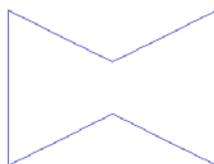


- 3 In the Type area, select one of the following types of offset:
  - ◆ To create an offset on one side of the segment, select Side of segment.
  - ◆ To create an offset on both sides of the segment, select Enclosed segment.
- 4 In the Corner Shape area, select one of the following corner shapes:
  - ◆ Miter
  - ◆ Round
  - ◆ Bevel

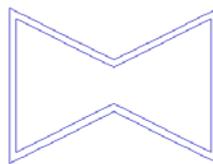
- 5 In the Ends area, select one of the following types of ends (for open paths only):

- ◆ None
- ◆ Miter
- ◆ Round
- ◆ Bevel

- 6 **Area Offset:** Applies to closed paths only. Select this option if you need to prevent the offsets from overlapping in narrow parts of the segment.



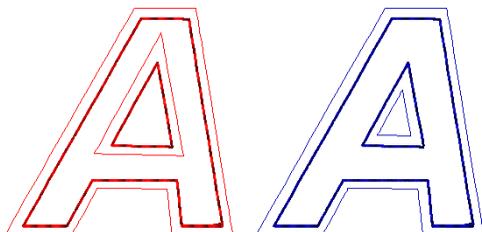
Segment with 1 cm offset



Area offset eliminates overlapping offsets in narrow areas

- 7 To set the distance of the offset from the edge of the original segment, do one of the following steps:
  - ◆ To preset the distance, select Specify distance, enter the distance including the unit of measurement and click OK.
  - ◆ To place the offset manually, ensure Specify distance is not selected and click OK. Click the segment and drag to place the offset.
  - ◆ To make a copy of the segment you offset, select Copy Offset. Click the segment and drag to place the offset.
- 8 **Allow holes:** Check this option to account for holes in closed segments when creating offsets. When “Allow holes” is checked, the Offset tool inserts the offset on the inner side of any holes within the selected segment. If it is not checked, the outline of the hole will be treated just the same as any other

outline in the segment, so the offset will be placed around the hole's exterior.



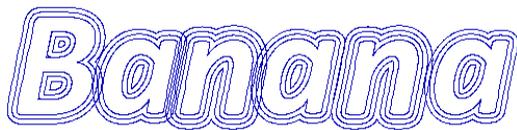
*Allow Holes setting: The two capital A's here have each been given 1.6 mm offset, with one repeat. On the left, with "Allow holes" off, and on the right with "Allow holes" on.*

**9 Merge offset shapes:** If offset is being applied to a number of shapes at the same time (as in the text example below), and the offsets are large enough to overlap, this option may be applied.

When Merge offset shapes is selected, any offsets that overlap will be merged into a single, continuous line. If there are multiple repeats, and some of them are not intersecting, these will remain isolated.



Above, offset with three repeats created with the "Merge offset shapes" set to on; below, same segment with this setting off.



**10 Nodes reduction:** To automatically reduce the number of nodes in an offset segment,

select one of the following options from the Nodes reduction menu:

- ◆ Standard for ordinary nodes reduction.
- ◆ Aggressive to remove more nodes.



You can also select "None" to apply no node reduction to the offsets.

**11** If you want more than one offset to be generated, enter a number (greater than 1, the default) in the Repeats box.

## Cutting Fabric with a Laser in Outline Mode

Using the Changeover command, you can cut fabric with a laser cutter on a Tajima machine.

### Basic rules

- To switch from a needle to the laser, the design needs a normal color change (or Stop) command. You assign the laser to a color change by using the Tajima control panel.
- If the laser cutter is on, the Changeover command stops it. If the laser cutter is off, the Changeover command starts it.
- If the laser is used in the middle or at the beginning of the design, it is good practice to have the machine move the hoop and stop so that the operator can pull off all the cut material. You can do this by adding an extra stop command after the color change.

### To cut fabric with a laser cutter:

- 1 On the Edit toolbar, click the Select  tool.
- 2 Select the last segment before you want the laser cutter to start in the design.
- 3 On the properties panel, under selection settings, click on the Commands tab.

- 4 In the Stop Command list, select Changeover.  
*This command will start the laser after the selected segment.*
- 5 Click OK.



You can also select a segment and select Changeover from the Stop Command list on your ribbon.

- 6 Select the last segment that you want to use for laser cutting.
- 7 On the properties panel, under selection settings, select the Commands tab.
- 8 In the Stop Command list, select Changeover.  
*This command will stop the laser after the selected segment.*
- 9 Click OK.



After you add changeover commands to segments, you should insert color changes as well. The laser cutter must be assigned a different needle for the rest of the design.

- 10 When finish creating your design, output your design to your embroidery machine.
- 11 At the embroidery machine, assign the thread you chose for color change to the needle with the laser cutter attached. When you sew your design on the embroidery machine, your design will be sewn accordingly using the laser cutter.

## Boring Fabric

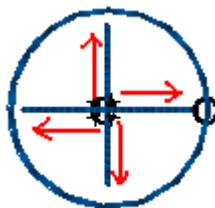
Boring is a method of cutting a small hole or slit in the fabric while sewing, producing various effects. For example, you can use a flower design and create a hole through its center. In some levels of the software, you can edit existing designs that have been digitized for boring. Depending on your system level, you can also create your own designs that use boring.



You should reserve Thread 1 and Needle 1 to use for the boring device.

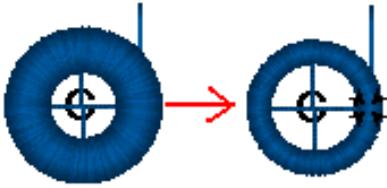
### To create a bore in the fabric:

- 1 Create a Run segment or select an existing Run segment that will be the guideline for the hole you want to create.
- 2 In the Start Command list, select Borer on to activate your boring needle at the end of the run segment.
- 3 In the Digitizing toolbar, click the Run  tool.
- 4 In the Stitch Length box, enter a stitch length value for the hole you want to create.
- 5 Digitize the hole you want to create in the fabric. Generally, the hole is created from the center to the outside as in the sample shown below:



- 6 Select the Run segment you digitized.
- 7 In the Stop Command list, select Borer Off to reactivate the needle you were using before boring.
- 8 Digitize a dense Satin border using Zig-zag underlay around the edge of the desired shape to tack back the flaps of the fabric. Because of the hole, your Satin stitch will be around 40% thinner than the one you draw.

The following is an example of how the Satin stitch will look after it is sewn out:



- 9 If your embroidery machine has thread detect, disable the thread detection on the boring needle.
- 10 At the embroidery machine, assign Thread 1 to Needle 1 with the boring device attached.

## 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 without affecting their individual attributes. You must select segments before you group them. Once segments are grouped, you have to ungroup them to deselect the segment group.

### To group segments:

- 1 In the design workspace or Sequence View area, select the segments you want to group.
- 2 Do one of the following.
  - ♦ Select Segment—Group
  - ♦ Press Ctrl+G on your keyboard.

*The stitches remain highlighted.*

Now, you can edit the group in any number of ways, you can move, resize, rotate, flip, cut or copy the group.

Text segments of any kind are grouped by default, and therefore cannot be grouped with other segments.



However, it is possible group text and other segment types by first converting the text to segments (Right-click—Process—Text to Segments) You can then select the text and the other segments in your design and use the Group command.

### To ungroup segments:

- 1 In the design workspace or Sequence View area, select the grouped segments.
- 2 Do one of the following:
  - ♦ Select Segment—Ungroup.
  - ♦ Press Ctrl+U on your keyboard.

*The group is no longer grouped together.*

## Deleting Segments

Deleting a segment removes it from the design. The only way to retrieve a segment you delete is to choose Edit—Undo immediately after you delete it.

### To delete a segment:

- 1 In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select the segment.
- 3 Do one of the following:
  - ♦ Press Delete on your keyboard.
  - ♦ Choose Edit—Clear.

## Removing Stitches in Overlapped Segments

Tajima DG16 by Pulse makes it easier to work with designs that have overlapping segments with stitches. In a single step, you can remove the underlying portion of overlapping stitch segments.

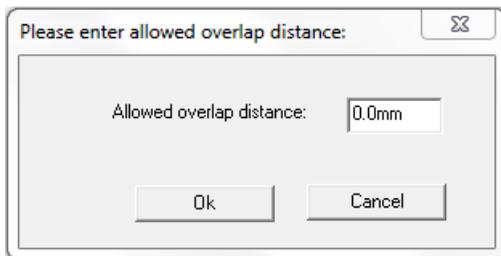


The Remove Overlapped Stitches function is limited to a maximum of three segments; make sure you have no more than that selected when you use it, otherwise the function will not work.

You can also choose to retain some of the overlap when performing Remove Overlapping stitches, by typing an overlap distance in the “Allowed overlap distance” dialog that appears. Leaving some overlap helps eliminate the gaps that can sometimes occur when all the overlap is removed.

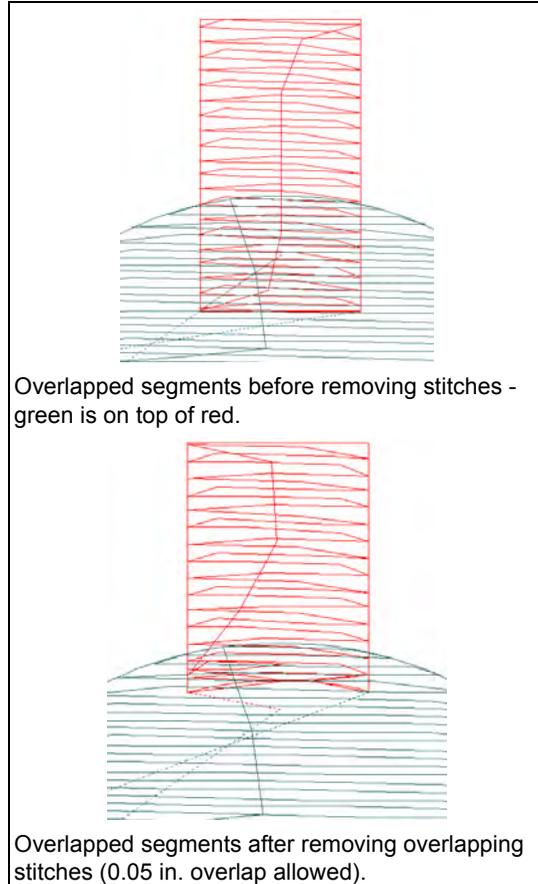
### To remove overlap:

- 1 Select two or three fill segment and Right-click.  
*You see a shortcut menu.*
- 2 Select Shape—Remove Overlapped Stitches from the shortcut menu.  
*You see the Allowed overlap distance dialog.*



- 3 To retain some overlap between the stitch segments, type the distance in the box, and click OK.

*The overlapped portions of selected segments will be removed accordingly.*



## Moving through Outline Designs

You can move through an Outline design by using the buttons on the Navigation bar. You can use these button to navigate through outline segments in your designs. To use the navigation buttons, you can left-click to move backwards or right-click to move forwards from selected segments. You can move

through a design by increments of 1, 10, 100 and 1000 segments or by changing the selection of segments based on color changes.

### To move through an outline design by increments:

- 1 Select the segment you want to edit or view.
- 2 Choose how you want to move through the design:
  - ♦ To move forward through the design, right-click the navigation tool you want to use. Hold down the mouse button to repeat the action rapidly.
  - ♦ To move backward through the design, left-click the navigation tool you want to use. Hold down the mouse button to repeat the action rapidly.
- 3 Right-click or left-click one of the following navigation tools accordingly:
  - ♦ Move by 1  to move by 1 segment.
  - ♦ Move by 10  to move by 10 segments.
  - ♦ Move by 100  to move by 100 segments.
  - ♦ Move by 1000  to move by 1000 segments.

### To move through an outline design by commands:

- Choose how you want to move through the design:
  - ♦ To move to the next command in the design, right-click the Move to Previous/Next Command  tool. Hold down the mouse button to repeat the action rapidly.
  - ♦ To move to the previous command in the design, left-click the Move to Previous/Next Command  tool. Hold

down the mouse button to repeat the action rapidly.

*You will automatically switch to Stitch mode in the design window.*

### To move through an outline design by color:

- 1 Select the segment you want to edit or view.
- 2 Choose how you want to move through the design:
  - ♦ To move to the next color change in the design, right-click the Move to Previous/Next Color  tool. Hold down the mouse button to repeat the action rapidly.
  - ♦ To move to the previous color change in the design, left-click the Move to Previous/Next Color  tool. Hold down the mouse button to repeat the action rapidly.

### To move to the first and last segment in an outline design:

- 1 Select the segment you want to edit or view.
- 2 Choose how you want to move through the design:
  - ♦ To move to the first segment in the design, left-click the Move to Start/End  tool.
  - ♦ To move to the last segment in the design, right-click the Move to Start/End  tool.

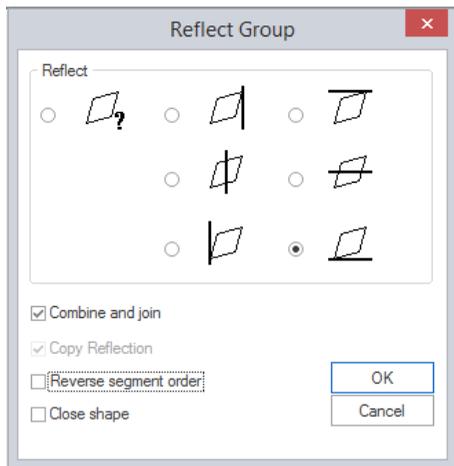
## Reflecting Segments

Reflecting a segment flips the object across an invisible axis. You can either choose to reflect the selection across an axis you determine by clicking in the workspace, or choose from a number of preset options.

The reflect tool also includes an option to copy the reflected segment, and another option to combine the reflected segment with the original into a single segment.

### To reflect a segment manually:

- 1 In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select the segment.
- 3 Do one of the following:
  - ◆ Click on the Reflect  tool on the Transformation toolbar.
  - ◆ Press Ctrl + F.  
*You see the Reflect Group dialog.*



- 4 Click the “arbitrary axis” option  (top-left radio button), and click OK.

- 5 Position the pointer on one point along the invisible axis across which you want the reflection to occur.
- 6 Click and drag to set the desired axis of reflection.
- 7 Release your mouse.  
*The reflected segment is created in the workspace.*

### To reflect by using the preset options:

- 1 Select the segment.
- 2 Do one of the following:
  - ◆ Click on the Reflect  tool on the Transformation toolbar.
  - ◆ Press Ctrl + F.  
*You see the Reflect Group dialog.*
- 3 To select the axis across which you want the object to be reflected, you can choose to reflect an object across horizontally and vertically.
  - ◆ Horizontally (Click beside the figure that resembles the desired result.)
  - ◆ Vertically (Click beside the figure that resembles the desired result.)
- 4 Click OK.  
*You see the segment altered accordingly.*

### To make a copy of your reflection:

- 1 Select the segment you want to reflect.
- 2 Do one of the following:
  - ◆ Click on the Reflect  tool on the Transformation toolbar.
  - ◆ Press Ctrl + F.  
*You see the Reflect Group dialog.*
- 3 Select Copy Reflection to make a copy of the original segment you are reflecting.
- 4 Click OK.
- 5 Position the pointer on one point along the invisible axis across which you want the copy of your reflection to occur.

- Click and drag to set the point of origin.  
*When you release your mouse, you see the segment altered accordingly.*

### To make a copy of your reflection by using the preset options:

- Select the segment you want to reflect.
- Click the Reflect  tool.  
*You see the Reflect Group dialog box.*
- Select the reflection option you want.
- Select Copy Reflection to make a copy of the original segment you are reflecting.



You can also reverse the order of segments when you copy a reflection. If you want to reverse the order of segments, select Reverse Segment Order.

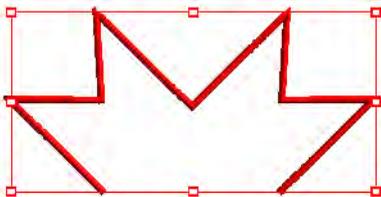
- Click OK.  
*You see the segment altered accordingly.*

### To make a combined segment from the original and the reflection:



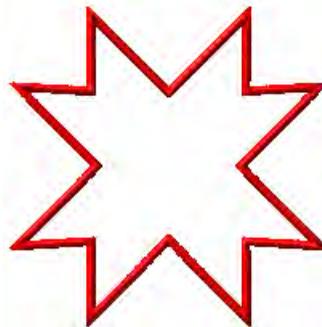
The Combine and Join option can only be applied to open segments. It can be used with Artwork, Run, Steel, Complex Fill, and Satin segments.

- Select the segment.



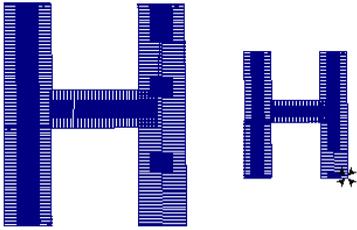
- Do one of the following:
  - Click on the Reflect  tool on the Transformation toolbar.
  - Press Ctrl + F.  
*You see the Reflect Group dialog.*

- In the dialog, select the radio button corresponding to the desired axis of reflection.
- Select the Combine and Join option on the dialog.
- Check “Reverse Segment Order” to reverse the sewing order of the copied segment; this will switch the start and end points compared to the original.
- (Optional) Check “Close Shape” to add a “bridge” to close the combined segment; this will join the open ends by the shortest path.
- Click OK.  
*The original segment and the reflection will now be combined into a single segment.*



## Resizing Segments

Resizing a segment enlarges or reduces it horizontally or vertically, relative to the percentage you designate. You can manually resize segments or use any of the other resizing methods available for finer control.



### To resize a segment manually using design handles:

- 1 Select one or more segments.  
*The active segment is enclosed in a selection box with handles.*
- 2 To resize the segment proportionally, click and drag the resize handles located on each side of the selection box.

### To resize a segment manually in Power Edit mode:

- 1 Select one or more segments.  
*The active segment (or segments) will be enclosed in a selection box with handles.*
- 2 Do one of the following:
  - ◆ In the Transform toolbar, click the Power Edit  tool.
  - ◆ Right-click, and select Transform—Power Edit.
  - ◆ Press W on your keyboard.

*You will now be in Power Edit mode.*



To exit Power Edit mode, you can press **ESC** on your keyboard, click inside the selection box again or click on either the Select or Lasso Select tools.

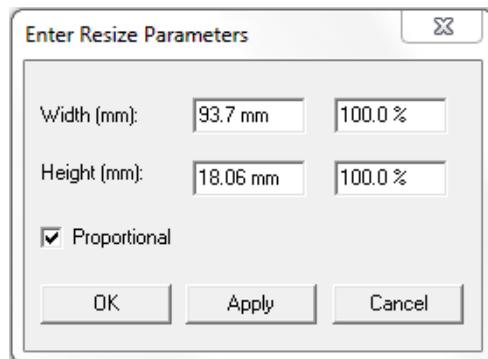
- 3 Do one or more of the following to resize segment(s):
  - ◆ To resize segment(s) by width, click and drag the resize beads located on the left and right side of the selection box.
  - ◆ To resize segment(s) by height, click and drag the resize beads located on

the top and bottom sides of the selection box.

- ◆ To resize segment(s) proportionally, click and drag the resize beads located at the top or bottom corners of the selection box.

### To resize a segment using the Enter Resize Parameters dialog:

- 1 In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select one or more segments.  
*The active segment is enclosed in a selection box with handles.*
- 3 Click on the Resize  button in the Transformation toolbar.  
*You see the Enter Resize Parameters dialog.*

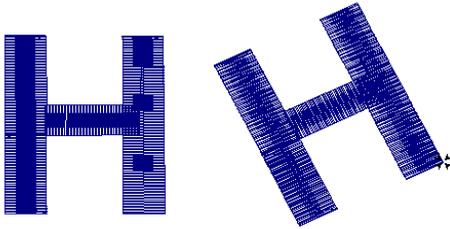


- 4 To resize your segment proportionally, select Proportional, if not already selected. Now when you enter any width or height value, the other value will change proportionally.
- 5 In the Width boxes, enter an absolute or percentage width value.
- 6 In the Height boxes, enter an absolute or percentage height value.
- 7 Click Apply to save your changes.

- Click OK to complete the resizing.

## Rotating Segments

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, such as a logo and lettering displayed on a 30-degree angle.



### To rotate a segment manually:

- Select the segment.  
*The active segment is enclosed in a selection box with handles.*
- Do one of the following:
  - In the Transform toolbar, click the Power Edit  tool.
  - Right-click, and select Transform—Power Edit.
  - Press W on your keyboard.  
*You will now be in Power Edit mode.*
- To exit Power Edit mode, you can press **ESC**, click inside the selection box again, or select the Select or Lasso Select tools.
- To change the pivot point that the segment will rotate around, click and drag the rotation bead in the middle of the Power Edit selection box.
- Move your mouse over the rotation bead attached to the extended horizontal bead.  
*The cursor changes to a circular arrow.*

- Click and drag the rotation bead to adjust the box to the angle you want.

### To rotate a segment using the Rotate tool:

- In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- Select the segment or segments that you wish to rotate.  
*The active segment is enclosed in a selection box with handles.*
- Click on the Rotate  tool.  
*You see the Enter degree of the rotation dialog.*
- Enter the angle at which you want to rotate the design.
- Select the direction of the rotation: Clockwise or Counter Clockwise.
- Click OK.

## Splitting Outline Segments

Outline segments may be split into separate segments with the slice tools; depending on the situation, and the type of segment(s) to be

slice, you may either use the Slice , Curved Slice , Freeform Slice , or

Rectangle Slice  tool.

- The Slice tool lets you split complex shapes into simple shapes, as well as slice outline segments. You can create open or closed segments when you split segments with the Slice tool.
- The Curved Slice tool works similarly to the Slice tool, except it allows you to slice along any kind of curved path. This path is created in much the same way as a Run segment.

- When a Rectangle slice is applied, a section of outline is created everywhere that the drawn rectangle intersects a segment. All the outline segments within the rectangle are left intact, while all the segments outside of it are removed.
- The Freeform Slice tool allows you to create a closed slice in any desired shape; the slice line is created in much the same way as drawing a line with the Pen tool.

## Special Notes:

- Do not confuse the Slice or Curved Slice tools with the Split Anchor option. The Slice tools slice between two anchor points on a path. Split Anchor converts one anchor point into two anchor points, possibly splitting a path in the process.
- You can also click outside the location of the segment and the first slice bead will snap to the closest point on the segment shape.

### To use the Slice tool:

- 1 Select an outline segment.
- 2 On the Edit toolbar, click the Slice  tool.
- 3 To split an outline segment, do one of the following steps:
  - ♦ To create an open segment, click the location on the segment from where you want to slice and drag to the location where you want to end the slice.
  - ♦ To create an open segment, hold down **SHIFT** and click the location on the segment from where you want to slice and drag to the location where you want to end the slice.

### To use the Curved Slice tool:

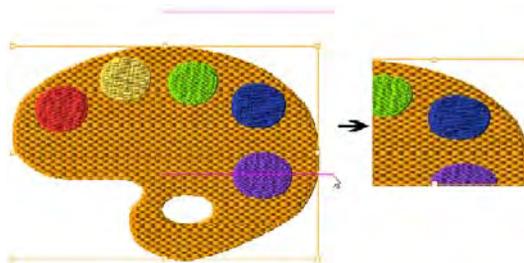
- 1 Select an outline segment.

- 2 In the Edit toolbar, click the Curved Slice  tool.
- 3 Choose the drawing mode that you want to use to create your curve – Bézier, Arc QuickDraw or Free Hand. For more information on these drawing modes, see “Using Paths”.
- 4 To split an outline segment, do one of the following steps:
  - ♦ To create a closed segment, click to set points on a path create a path from the location on the segment from where you want the slice to begin to the location where you want the slice to end.
  - ♦ To create a closed segment, hold down **SHIFT** while you set the points of your path.

### To use the Rectangle Slice tool:

- 1 Select an outline segment (or group of segments).
- 2 On the Edit toolbar, click the Rectangle slice  tool.
- 3 Click, hold, and drag the mouse to create a box of the desired size around the selected segments.
- 4 Release the mouse to finish the rectangle slice.

*The new outlines will be generated; segments outside the rectangle will be deleted.*



### To use the Freeform slice tool:

- 1 Select an outline segment (or group of segments).
- 2 On the Edit toolbar, click the Freeform slice  tool.
- 3 Click points in the workspace to place points to create the desired shape.



The type of points the Freeform slice tool will place will depend on the current drawing mode. See “Drawing modes for digitizing.” If a gap is left in when you are done placing points, it will be closed with a straight line.

- 4 Click Enter to complete the slice.  
*The segments will be sliced along the drawn line, and segments outside it will be deleted.*

## Closing Open Segments

Tajima DG16 by Pulse makes it easy to close open objects in your embroidery designs. By quickly joining the two end points of a segment, you can save time when working with imported artwork or performing outline edits.



You can not use this function with Manual segments.

### To close open segments:

- 1 Select one or more segments.
- 2 Press the letter **O** on your keyboard.  
*All opened segments will now be closed. Previously closed segments will not be altered.*

## Converting Segments to other Stitch Types

You can convert a segment to another stitch type without recreating the segment. After you convert a segment to another stitch type, you may change the properties of the segment. Converting stitch types is also handy when you have an existing outline segment in a design and you want to either duplicate it or use it in another design as another stitch type. Here are two examples of when you would convert a segment to another stitch type:

- Complex Fill to Appliqué. You enlarged a design and now your Complex Fill stitches are too big. You have too many stitches. You convert them to appliqués and now your stitch count and sewing time is much lower.
- Bean (Run) to Steil. For the same enlarged design, your Bean stitch border stitches are now too small. You need a thicker border. Therefore, you convert your Bean to Steil to get the desired effect.

### To change the stitch type:

- 1 Select a segment.
- 2 Do one of the following:
  - Click Convert  on the ribbon.
  - Press = on your keyboard.
- 3 Select the stitch type you want from the shortcut menu.

## Converting Stitches to Outline segments

Tajima DG16 by Pulse allows you to easily convert segments using the Stitch to Outline command. Stitch to Outline conversion (STO) allows you to convert parts of a design's

stitches into individual or grouped outline segments. Typically, converting stitches to outlines is ideal for performing significant edits to the design file such as resizing or changing the density.

You can also perform STO in order to convert opened or merged stitch files to outline files. For more information on performing STO while opening or merging designs, see "Opening and closing designs" and "Merging Designs".



When you perform STO, the original stitches will be preserved. However, once you edit a segment, stitch generation will occur and its stitches will change.

### To convert stitches to outline segments:

- 1 Select the segment you want to perform Stitch to Outline conversion.
- 2 Right-click and choose Stitch to Outline.  
*Alter the outline segment settings accordingly.*

## Converting Stitches to Stitch Segments

Tajima DG16 by Pulse allows you to convert segments into stitch segments. Outline changes made to any part of the design will not affect stitch segments. You cannot perform any outline editing on stitch segments except to resize, reflect, rotate, and change the color of them; however, major editing is not advisable. With the exception of the previously mentioned outline edits, the stitches which are part of a stitch segment can only be modified by direct stitch editing. If you want to perform more advanced outline edits on stitch segments, then you must selectively perform a Stitch to Outline conversion (STO) to the seg-

ments and convert them to our more advanced segment types. However, this will not guarantee the preservation of your stitches.

### To convert segments into stitch segments:

- 1 Select the segment you want converted into a stitch segment.
- 2 Do one of the following:
  - ♦ Click Convert  on the ribbon and choose Stitch Segment from the shortcut menu.
  - ♦ Press the = key and choose Stitch Segment from the shortcut menu.
  - ♦ Right-click, or press Ctrl+E, and choose Convert Segment to—Stitch Segment from the shortcut menu.

## Copying Segments

In Outline Mode, you can use numerous methods to copy segments in your designs. When modifying outline segments and doing significant design editing in Tajima DG16 by Pulse, you should know how to avoid possibly losing your stitch edits.

### Copying segments using the Clipboard

You can copy and paste segments in your design.

#### To copy and paste:

- 1 On the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select the segment.
- 3 Right-click and select Copy from the shortcut menu.

*The segment is placed on the Clipboard.*

- 4 Right-click and select Paste.  
*The segment is pasted on top of your current segment.*
- 5 Click and drag the segment you pasted to any location.

## Copying Settings with the Settings Painter

The Settings Painter tools allow you to save time editing your embroidery designs. There are two Settings Painter tools available: Copy Settings and Paste Settings.

You can easily copy segment settings from one segment to one or more other segments. Or, you may copy settings into various Segment Settings property pages. Only the settings that are shared between those segments will be copied over.

If you used more than one segment for copying, you will not be able to copy shared settings that have different values. If the copied segments had different density values, for example, the density settings will not be copied.



The following segment settings can never be copied using the Settings Painter tools:

- Text (characters used for a text segment)
- Thread color

### To copy and segment settings:

- 1 Select one or more segments you wish to copy settings from.
- 2 In the Settings Painter toolbar, click the Copy Settings  tool.
- 3 Select one or more segments you wish to apply settings to.
- 4 In the Edit toolbar, click the Paste Settings  tool.

*The settings for these segments will be updated to reflect the copied segment settings. Only the settings shared between the segments will be copied over.*

### To copy and paste segment settings into Segment Settings property pages:

- 1 Select one or more segments you wish to copy settings from.
- 2 In the Settings Painter toolbar, click the Copy Settings  tool.
- 3 To apply settings directly into Segment Settings property pages, do the following:
  - ♦ Select one or more segments you wish to apply settings to
  - ♦ Open the Segment Settings pages.
  - ♦ Click Paste.  
*Copied segment settings will be copied to the appropriate property pages.*
  - ♦ Make appropriate changes to settings and click OK.
- 4 To apply settings when filtering segments, complete the following:
  - ♦ Click the Segment Filter  tool.  
*You see the Filters dialog box.*
  - ♦ In the Segment Properties area, click Show or Hide.  
*You see the Segment Settings property pages. The property pages contain all the settings available for designs in Tajima DG16 by Pulse.*
  - ♦ Click Paste.  
*Copied segment settings will be copied to the appropriate property pages.*
  - ♦ Make appropriate changes to settings and click OK.
- 5 To apply settings when creating presets, complete the following:
  - ♦ Open the Presets Manager dialog.  
For more information, see "Creating Presets."

- ◆ Click Create New.  
*You see a new Presets dialog.*
- ◆ In the Name box, enter the name of the new preset you want to create.
- ◆ In the Available Stitch Types list, select one or more of the available stitch types you want used for the new preset.
- ◆ Click Select.  
*You see Segment Settings property pages appear with settings related to the selected stitch types.*
- ◆ Click Paste.  
*Copied segment settings will be copied to the appropriate property pages.*
- ◆ Make appropriate changes to settings and click OK.

## Copying Segments with the Duplicate Tool

You can make multiple copies of a segment using Duplicate. Once the selection has been duplicated, you use the mouse to position the duplicates where you want in the design workspace.

You can also position copies in relation to the original segment or in relation to the last copy you placed. You use x and y coordinates to help you precisely place the copy.

A third option is to use the Advanced duplicate feature to create an array of duplicates, in a grid. In this option, you are able to set the number of rows and/or columns of copies of the selected segment, and also the horizontal and vertical spacing (displacement) between duplicates.

### To copy a segment using the Duplicate tool:

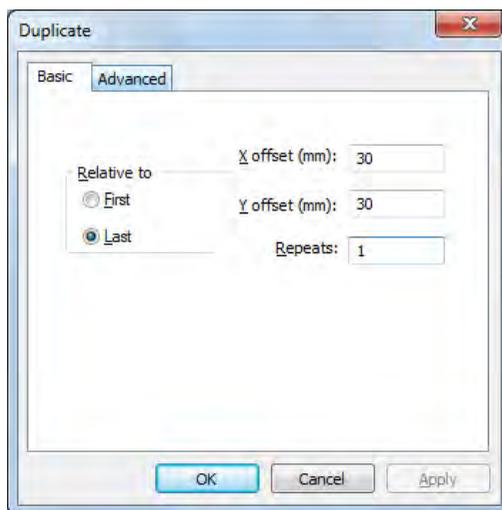
- 1 Select the segment.
- 2 Do one of the following:

- ◆ Click the Duplicate  tool on the Transformation toolbar
- ◆ Press Ctrl+D on your keyboard.  
*The pointer becomes a floating box.*

- 3 Move the box to the location you want to place the copy.
- 4 Left-click; an exact duplicate of the segment is placed in the new location. If you want more than one copy, you can continue to left-click, placing the copies where you like.
- 5 Right-click to stop duplicating.

### To copy a segment in relation to the original or last copy you made:

- 1 Select the segment to be duplicated.
- 2 Do one of the following:
  - ◆ Click the Duplicate  icon on the Transformation toolbar
  - ◆ Press Ctrl+D on your keyboard.
- 3 Press **CTRL** and left-click simultaneously.  
*You see the Duplicate dialog.*



- 4 In the Relative to area, do one of the following:

- ◆ To place the copy based on the location of the original copy, select **First**.

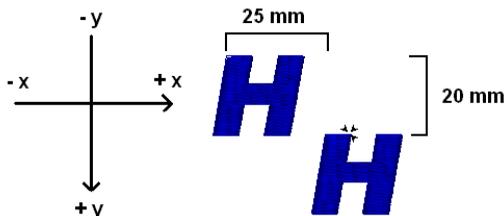


Use **BACKSPACE** to delete the last copy you placed.

- ◆ To place the copy based on the location of the last copy you placed, select **Last**.

**5** Do one or more of the following:

- ◆ In the X offset box, enter a value for the horizontal offset.
- ◆ In the Y offset box, enter a value for the vertical offset.

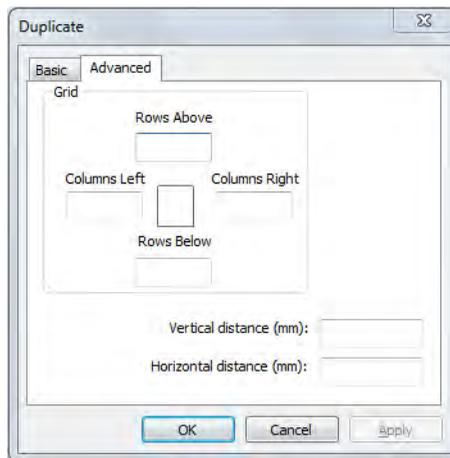


An example of a duplicated segment with offset values of  $x=25\text{mm}$  and  $y=20\text{mm}$ .

- 6 In the Repeats box, enter the number of repeats.
- 7 Click OK.
- 8 Click to place another copy or right-click to complete the duplication.

**To create duplicates in rows and/or columns:**

- 1 Select the segment to be duplicated.
- 2 Do one of the following:
  - ◆ Click the Duplicate  tool on the Transformation toolbar
  - ◆ Press Ctrl+D on your keyboard.
- 3 Press **CTRL** and left-click simultaneously. *You see the Duplicate dialog.*
- 4 On the Duplicate dialog, select the Advanced tab.

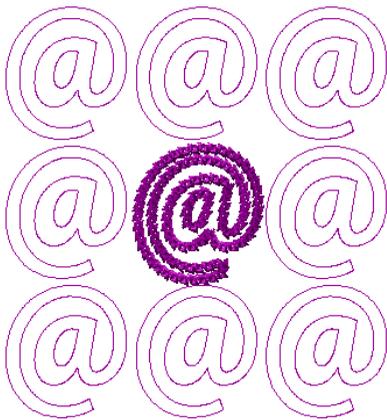


- 5 In the Grid area of the dialog, enter the number of rows and columns of duplicates you wish to create; these can be above, below, to the left, or to the right of the original (or any combination of the above).
- 6 Enter the vertical and horizontal distance (displacement) of the duplicates in the corresponding fields.

Note that the distances entered here will determine the spacing between the center of original and the centers of the duplicates, not the spacing between them. So, for example, if the original segments is 10 mm wide, and you enter a horizontal distance of 10 mm, the edges of the segments in adjacent columns will just be touching.



- 7 Click OK. *The Duplicate dialog closes, and you see outlines of the duplicates in the workspace.*



*Example of a selection duplicated using the Advanced settings (before stitch generation). An extra 4mm (above the original's dimensions) has been added to the distance parameters in each direction, to prevent overlap.*

- 8 Press **Enter** to complete the duplication. *The specified number of rows and/or columns of duplicates now appear in your design.*

## Using Power Copy

You can copy, rotate, and resize a segment all in one step. Power Copy is useful when digitizing designs with many similar parts, such as the petals of a flower or the leaves on a tree.

### To use Power Copy:

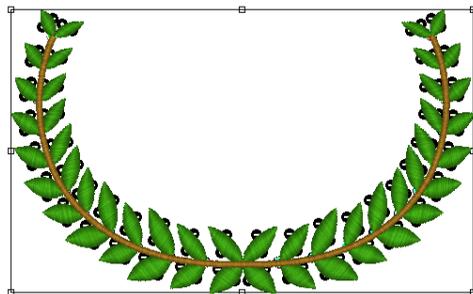
- 1 In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select the segment.
- 3 Do one of the following:
  - ♦ Click the Power Copy  tool on the Transformation toolbar
  - ♦ Press **Ctrl+W** on your keyboard.
- 4 To enter a baseline, click and drag a line from one end of the segment to the other end.

*The line is used as a point of reference when placing the copies.*

- 5 Move the pointer to the location you want to place the copy.
- 6 Do one of the following steps to place a copy:
  - ♦ To resize the copy, drag the copy line and box until it is equivalent to the size you want. You determine the size of the copy by the length of the copy line you draw.
  - ♦ To rotate the copy, drag the copy line in the direction you want. You determine the direction of the copy by the angle of the copy line you draw.
  - ♦ To rotate and resize the copy, drag the copy line on the angle you want and at the size you want.

*A copy of the segment is placed in the new location. You see the outline of the segment you are copying.*

- 7 Release the mouse button to copy the segment.
- 8 To make multiple copies, repeat step 6. The figure shows multiple copies of the original segment, angled in different directions and in slightly different sizes.



- 9 Right-click to complete the Power Copy. Keyboard shortcuts for Power Copy:
  - ♦ **Backspace**: Deletes the last copy you placed.

- ◆ **Shift**: Snaps the copy line to 15 degree increments as you draw it.
- ◆ **\*ctrl**: Lets you rotate the segment about the copy line.
- ◆ **\*alt**: Lets you change the size of the original segment.
- ◆ **r**: Reflects the copy about the copy line.

\*You must hold these keys before placing the copies.

## Using Circular Copy

The Circular Copy feature duplicates a segment and places a number of copies, rotated around a defined rotation point. You can control the number of copies to be created, the distance from the rotation point and the angle between each copy.

### To use Circular Copy:

- 1 Select the segment to be copied.
- 2 Select the Circular Copy  tool on the Transformation toolbar  
*You see the Circular Copy dialog, and a preview of the copies (In outline) appears on the workspace window.*



- 3 In the Circle dimensions area, do the following:

- ◆ Adjust the diameter of the circle: With the “Keep aspect ratio” box checked, type the desired size in either the Width or Height boxes of the Properties section of the dialog.



You can also change the radius of the Circular copy and position of the center by clicking and dragging the center bead in the outline preview.

- ◆ To change the shape of the circular copy, uncheck the “Keep aspect ratio” box, and enter new values in the width (mm) and/or height (mm) fields.

- 4 In the Objects area, do the following:

- ◆ Choose a number of copies to create in the Number of Objects field.



When the Force a full circle box is checked, the angle between each copy is determined by the number of objects you specified. You can uncheck this box to have full control of the angle between copies.

- ◆ Adjust the angle between each segment by typing a new value in the Angle field.
- ◆ Add an offset angle, if desired. This parameter offsets the copies by the given value (in degrees) from where they would be placed according to the value entered in the Angle field (step 6).

- 5 In the Design Properties area, do the following:

- ◆ Change the size of the copies by entering a value in the Scale% field.
- ◆ Adjust the angle for the copies relative to the original by entering value in the Angle box.
- ◆ Auto Rotate (on by default): When set, the copies will be rotated so that they radiate out from the center. Uncheck this box to have all copies placed with the same orientation as the original.
- ◆ Check the Reflect box to reflect each copy through its vertical axis.

**6** Click OK.

*The finished copies are generated and placed into your design.*



## Moving Segments

In Outline Mode, you can use several methods to move segments in your designs. When modifying outline segments and doing significant design editing in Tajima DG16 by Pulse, you should know how to avoid possibly losing your stitch edits.

### Moving Segments Manually

You can move segments around your design by dragging them to another location.



You can turn on Snap to Grid (Shift + backspace) to make sure that segments are aligned along the grid lines when you move them. Press Shift + backspace again to turn off Snap to Grid.

### To move a segment or a copy of a segment manually:

- 1 In the Edit toolbar, click the Select tool or the Lasso Select tool.
- 2 Select the segment.
- 3 Click and drag the segment to its new location.

*As you drag, the status line displays the horizontal (X) and vertical (Y) distance.*

## Moving and Duplicating Segments Simultaneously

Using just the mouse and the Alt key, you can duplicate the selected segment (or segments), and move the copy to a new location at the same time.

### To move and duplicate a selection:

- 1 Select the segment or segments.
- 2 Press and hold the Alt key.
- 3 Click and drag the segment to the desired location.
- 4 Release the mouse to place the duplicated selection.

*The copy is placed, while the original remains in its location.*



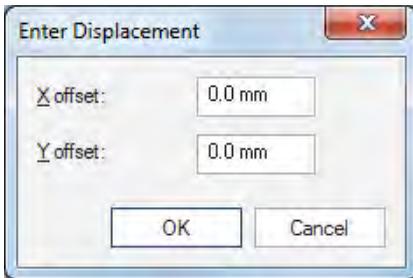
If the selection that is being moved contains stitches, it is important to note that stitches will be regenerated when it is duplicated; therefore, any stitch edits made in the original will be lost in the duplicate.

## Moving Segments an Exact Distance

You can move segments around your design a precise distance (vertically and horizontally) by typing the amount of displacement you want into the Displacement dialog. This dialog is easily accessed using the Move  tool.

### To move a segment an exact distance:

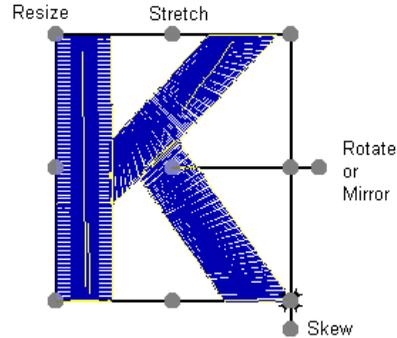
- 1 In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select the segment.
- 3 Click on the Move  tool in the Transformation toolbar.  
*You see the Enter Displacement dialog.*



- 4 Enter the vertical and horizontal distance the you wish the segment to be moved by.
- 5 Click OK.  
*You see your segment moved to the new position in the workspace.*

## Moving Segments with Power Edit

You can move, resize, rotate, stretch, mirror, or skew segments in one step. Power Edit applies round beads and a selection box to the segment. Each round bead allows you to perform various movements.



Power Edit beads

### To move segments using Power Edit:

- 1 In the Edit toolbar, click the Select tool or the Lasso Select tool.
- 2 Select one or more segments.  
*The active segment(s) will be enclosed in a selection box with handles.*
- 3 Do one of the following:
  - ◆ In the Transform toolbar, click the Power Edit  tool.
  - ◆ Right-click, and select Transform—Power Edit.
  - ◆ Press **W** on your keyboard.  
*You will now be in Power Edit mode.*



To exit Power Edit mode, you press **ESC** and click inside the selection box again, or select the Select or Lasso Select tools.

- 4 Do any of the following steps:
  - ◆ To move the segment, click and drag it to the new location.

- ♦ To stretch the segment, drag the stretch beads located between the corner handles.
  - ♦ To rotate the segment, drag the rotate/mirror bead located outside of the selection box, extending from the middle of the selection box.
  - ♦ To mirror the segment, drag the rotate/mirror bead to the opposite side of the selection box.
  - ♦ To resize the segment proportionally, drag the resize beads located at the corners of the selection box.
  - ♦ To skew the segment, drag the shew bead located outside of the selection box, extending from the right side of the selection box.
- 5 Right-click to apply the changes and complete the Power Edit.

## Moving Segments using the Clipboard

You can cut and paste segments into other design files.

### To cut and paste segments:

- 1 In the Edit toolbar, click the Select  tool or the Lasso Select  tool.
- 2 Select the segment.
- 3 Right-click and select Cut to Clipboard from the menu.  
*The segment is removed from the design and a copy is placed on the Clipboard.*
- 4 Open a design file and select the location where you want to paste the segment.
- 5 Right-click and select Paste from Clipboard from the shortcut menu.

## Nudging Segments

Nudging moves the selected segment or group of segments. Nudging is similar to dragging the segment but the distance that the segment moves is smaller.

### To nudge up:

- Use **Alt** +  .

### To nudge down:

- Use **Alt** +  .

### To nudge left:

- Use **Alt** +  .

### To nudge right:

- Use **Alt** +  .

## Repeating a Move

There is a new function, available when editing in Outline mode, called the Repeat function. The Repeat function allows you to repeat the last adjustment made to a segment. So, for example, if you select a segment with the select tool, and displace it manually in the design, you can then select another segment, and move it the exact same direction and distance by using Repeat.

- To apply the Repeat command, select a segment and press **Shift + R**.

## Sequencing Outline Segments

In Outline Mode there are a number of ways that you can the sequence segments in a design. When modifying outline segments and doing significant design editing in Tajima

DG16 by Pulse, you should know how to avoid possibly losing your stitch edits. For more information on editing outline segments, see "Editing Segments."

## Sequence View Tools

The sequence view is a useful tool for selecting and resequencing segments in the design. The following procedures describe the various functions of the Sequence view.

### To open the Sequence View:

- Do one of the following:
  - ♦ Type Shift+T on the keyboard.
  - ♦ Select View—Toolbars and Docking Windows—Sequence View from the menu bar.

### To use Sequence View tools:

- To expand all grouped segments, click Expand All .
- To close all grouped segments you expanded, click Collapse .
- To hide the artwork segments, click the Hide Artwork  icon.
- To unlock all segments in the design, click Unlock All .
- To reveal all hidden segments in the design, click Show All .
- To show design detail information for all segments in the design, click Show Details  (toggles on/off).

 When the Show Details tool is off, detailed information will be reorganized and associated segment pictures will be reduced in size, allowing you to see more segments at once in the Sequence View.

- ♦ To display pictures of segments in each color layer, click Show Layer Icons  (toggles on/off).



When the Show Layer Icons tool is off, you will no longer see segment pictures on the color layer bars. You will be able to see more segments at once in the Sequence View.

- ♦ **Select the Same Needle:** To simultaneously select all segments of the same color, you can use the Select

Same Needle  tool.

To use this tool, first select one segment of the color you want to be selected, and then click the Select Same Needle icon.



This function will only select all segments of the same color if they are all on the same needle.

## Inserting Segments Earlier in the Sequence

You can add segments earlier in your design's segment sequence and change the order segments are sewn. Insert—Before mode is ideal if you missed a segment, or if you want to add another segment.

You can also change into insert mode while using digitizing tools.

With any digitizing tool selected, press Insert on your keyboard. The next segment that is created will be inserted before whichever segment was most recently active, either:

- The latest segment that was digitized with the selected digitizing tool, or,
- If no segment has yet been created with the selected tool, the last segment that was selected using the Select tool.

Press Insert again to exit "Insert Mode."



### To insert segments before the insertion point:

- 1 Select the segment after the point where you want to insert a new segment.
- 2 Do one of the following.
  - ♦ Press the **Insert** key on your keyboard.
  - ♦ On the Menu bar, select Segment—Insert—Before.
  - ♦ Right-click and choose Insert—Before from the shortcut menu.



You know Insert mode is on when the type of mode is check-marked on the shortcut menu.

*The selected segment and all the segments after it are grayed out.*

- 3 Create and select the segment you want to insert.
- 4 Press Insert again on the keyboard to exit the Insert mode.

*The segments return to their original color.*

*To verify your design's segment sequence, view it in the Sequence View (Shift + T).*

### Inserting Segments Later in the Sequence

You can add segments later in your design's segment sequence and change the order segments are sewn. Insert—After mode is ideal if you missed a segment, or if you want to add another segment.

#### To insert segments after the insertion point:

- 1 Select the segment before the point where you want to insert a segment.
- 2 Do one of the following.
  - ♦ Press **Alt + Insert** on your keyboard.
  - ♦ On the Menu bar, select Segment—Insert—After
  - ♦ Right-click and choose Insert—After from the shortcut menu.

*All the segments after the segment you selected are grayed out.*

- 3 Create and select the segment you want to insert.
- 4 Press the Insert key on your keyboard to exit the Insert mode.

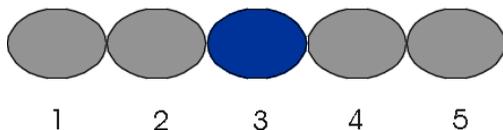
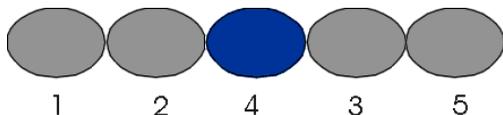
*The segments return to their original color.*

*To verify your design's segment sequence, view it in the Sequence View (Shift + T).*

## Moving a Segment Backward or Forward

Use the Move Earlier by 1 command to move the selected segment closer to the beginning of the design. In other words, you are moving the selected segment in front of the next segment.

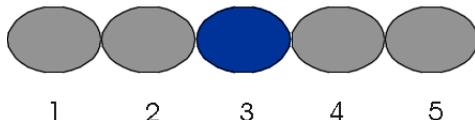
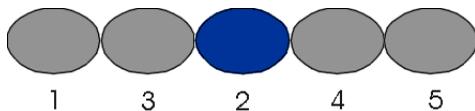
Use the Move Later by 1 command to move the selected segment closer to the end of the design. In other words, you are moving the selected segment behind the next segment. Move Earlier by 1 is used to move the blue circle from fourth in the sequence to third in the sequence.



### To move a segment backward:

- 1 Select the segment.
- 2 Choose Segment—Resequence—Move Earlier by 1.

*Move Later by 1 is used to move the blue circle from second in the sequence to third in the sequence.*



- 3 To see the sequence change, select View—Toolbars and docking windows—Sequence View.

### To move a segment forward:

- 1 Select the segment.
- 2 Choose Segment—Resequence—Move Later by 1.

## Moving a Segment Backwards and Forwards in Sequence View

Tajima DG16 by Pulse allows you to move segments backwards and forwards in a design using the Sequence View. In Sequence View, consecutive segments of the same color are grouped together in layers.

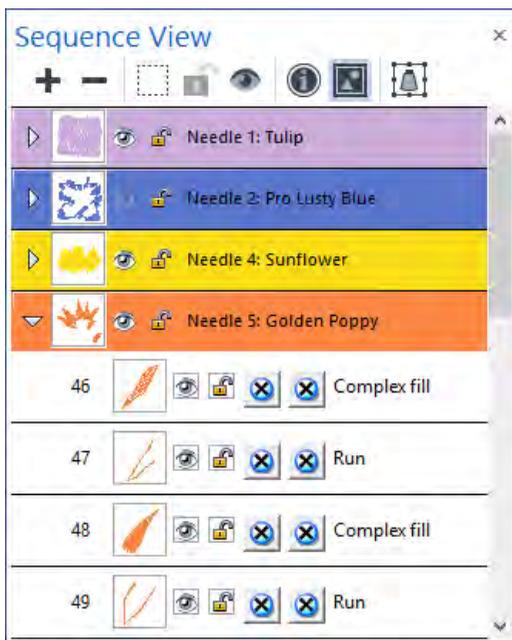
If a segment contains more than one color, the segment will be shown in a color group called "Multiple Colors" in the Sequence View panel.



To select multiple segments in Sequence View, press **Shift** or **Ctrl** on your keyboard while clicking on individual segments or grouped segments. The Shift key selects multiple segments shown consecutively. The Ctrl key selects multiple segments shown non-consecutively.

### To move a segment backwards and forwards using the Sequence View:

- 1 Choose View—Toolbars and docking windows—Sequence View.  
*You see the Sequence View panel.*



- 2 To perform design editing on a color group or a segment, do one of the following:
- Right-click a color layer bar or a segment and make a selection from the menu.
  - Click a color layer bar or a segment at the start of your selection. Press Shift on your keyboard while you click the color layer bar or segment at the end of your selection. To extend the range of selected color layer bars or segments, press Shift again or Shift+CTRL while you click any of them outside the range already selected. Then right-click and make a selection from the menu.
  - Click a color layer bar or segment. Press **CTRL** while you click each color layer bar or segment not already selected. Then right-click and make a selection from the menu.

- 3 Double click color layer bars to collapse and expand a color layer. For example, the Needle 9 layer bar was expanded in the picture above - you can see all of the segments for Needle 9.



You can also click  to expand and  to collapse a color layer.

- 4 Click and drag segments in the Sequence View panel to resequence segments.



You can copy and paste segments in Sequence View. Press Ctrl+C to copy a segment and press Ctrl+V to paste a segment.

- 5 To hide a segment on your design workspace, locate the segment in

Sequence View and click Hide/Show .

*You see a red X over the Hide/Show tool when hidden.*

- 6 To lock one or more segments, click Lock/Unlock .

- 7 To change a segment's Start Command or Stop Command in Sequence View, click the segment's current command and select another command from the menu. For example, you can change the Stop Command for a Run segment from No

Command  to a trim command .

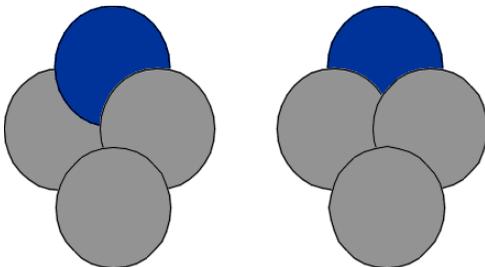
## Moving a Segment to the Start or End of a Design

Use the Bring To Start of Design command to make the selected segment the first one to be stitched. When a design is sewn, the first segment sewn is usually "on the bottom" or in the "back" of the design. Use the Bring To End of Design command to make the selected seg-

ment the last one to be stitched. When a design is sewn, the last segment sewn is usually "on top" or in the "front" of the design.

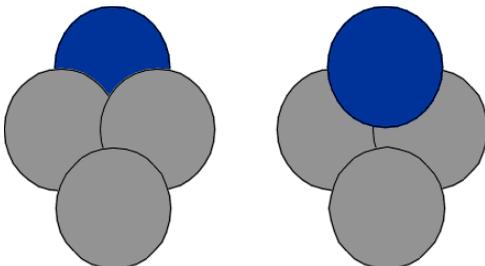
**To move a segment to the start of a design:**

- 1 Select the segment you want to move to the start of your design.
- 2 Choose Edit—Bring To Start of Design.



**To move a segment to the end of a design:**

- 1 Select the segment you want to move to the end of your design.
- 2 Choose Edit—Bring To End of Design.



To select multiple segments in Sequence View, press Shift or Ctrl while clicking on individual segments or grouped segments. The Shift key selects multiple segments shown consecutively. The Ctrl key selects multiple segments shown non-consecutively.

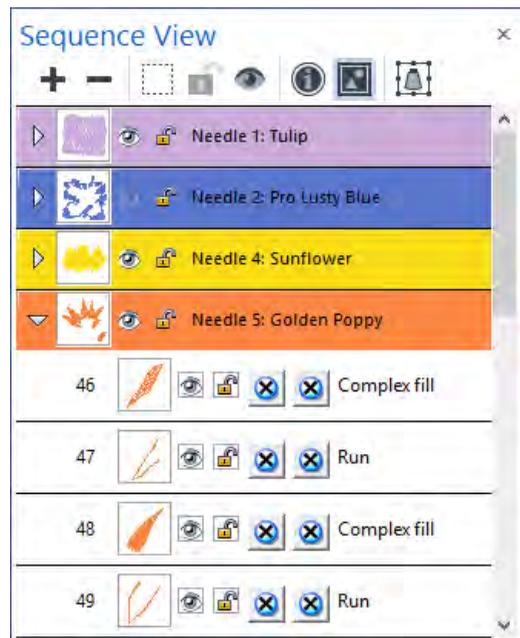


**Moving a segment to the start or end of a design in Sequence View**

Tajima DG16 by Pulse allows you to move segments to the Start and End of a design using Sequence View. In the Sequence View, consecutive segments of the same color are grouped together in layers. If a segment contains more than one color, the segment will be shown in a color group called "Multiple Colors" in the Sequence View.

**To move a segment to the start or end of a design using Sequence View:**

- 1 Choose View—Toolbars and docking window—Sequence View.  
*You see the Sequence View panel.*



- 2 From the Sequence View tools, choose any of the following:

- ♦ To expand all grouped segments, click Expand All .
  - ♦ To close all grouped segments you expanded, click Collapse .
  - ♦ To hide artwork segments in the Sequence View dialog and on your design workspace, click Hide Artwork .
  - ♦ To unlock all segments in the design, click Unlock All .
  - ♦ To reveal all hidden segments in the design, click Show All .
  - ♦ To show design detail information for all segments in the design, click Show Details  (toggles on/off). When the Show Details tool is off, detailed information will be reorganized and associated segment pictures will be reduced in size. You will be able to see more segments at once in the Sequence View.
  - ♦ To display pictures of segments in each color layer, click Show Layer Icons  (toggles on/off). When the Show Layer Icons tool is off, you will no longer see segment pictures on the color layer bars. You will be able to see more segments at once in the Sequence View.
- 3** To perform design editing on a color group or a segment, do one of the following:
- ♦ Right-click a color layer bar or a segment and make a selection from the menu.
  - ♦ Click a color layer bar or a segment at the start of your selection. Press Shift on your keyboard while you click the color layer bar or segment at the end of your selection. To extend the range of selected color layer bars or segments, press Shift again or Shift+CTRL while you click any of them outside the range already selected. Then right-click and make a selection from the menu.
  - ♦ Click a color layer bar or segment. Press CTRL on your keyboard while you click each color layer bar or segment not already selected. Then right-click and make a selection from the menu.
- 4** Double click color layer bars to collapse and expand a color layer. For example, the Needle 9 layer bar was expanded in the picture above. You can view all of the segments for Needle 9.
-  You can also click  to expand and  to collapse a color layer.
- 5** Click and drag segments in Sequence View to resequence segments.
-  You can copy and paste segments in the Sequence View. Press Ctrl+C to copy a segment and press Ctrl+V to paste a segment.
- 6** To hide a segment on your design workspace, locate the segment in Sequence View and click Hide/Show . *You see a red X over the Hide/Show tool when hidden.*
- 7** To lock one or more segments, click Lock/Unlock . See “Locking Segments in Sequence View”.
- 8** To change a segment’s Start Command or Stop Command in the Sequence View dialog, click the segment’s current command and select another command from the menu.

For example, you can change the Stop Command for a Run segment from No Command  to a trim command .

## Locking Segments in the Sequence View

Tajima DG16 by Pulse allows you to lock specific segments in an embroidery design. You can only lock segments using the Sequence View.

When you lock a segment, the segment and its stitches cannot be selected or modified. In the design workspace, you will not be able to select locked segments using the Select tool, the Sequence View, the segment navigation buttons, or by using Select All.

### To lock segments in Sequence View:

- 1 Choose View—Toolbars and docking window—Sequence View.  
*You see the Sequence View panel.*
- 2 From the Sequence View, do one or more of the following if appropriate:

To do this	Do this
Lock segment(s)	Select one or more segments and click  .
Unlock segment(s)	Select one or more locked segments and click  .
Lock a color layer	On a color layer bar, click  . All segments for this color layer will be locked. Click  to unlock all segments for this color layer. A color layer is locked if all of its segments are locked. To unlock a locked color layer, right click a color layer bar and choose Unlock from the menu. All segments for this color layer will be unlocked.
Unlock a color layer	

To do this	Do this
Unlock all segments in the design	Click  at the top of the Sequence View dialog. All locked segments will be unlocked. Or, from the main Tajima DG16 by Pulse menu, you can also choose Edit—Unlock All Segments.

- 3 Make any other changes in the Sequence View if necessary.

## Resequencing by Color

You can sequence design segments by color. When you use the Resequence by Color command, the segments of the design are reordered according to their thread number. In other words, the system reorders the segments so that all Thread 1 segments come first, then Thread 2 segments, and so on. Segments using the same needle remain in the same relative order. Resequence by Color is useful if you have digitized your design in a random order and want to stitch each thread color in order.

### To use Resequence by Color:

- Choose Segment—Resequence—Resequence by Color.  
*You see a dialog. Click Yes to resequence your design by color.*

## Resequencing Segments Consecutively

It is now possible to put any number of segments into consecutive order, in just two steps.

To do this, select the segments you want to arrange consecutively, and then choose Segment—Resequence—Resequence Consecutively. The segments will that you

selected will then all be placed consecutively in order, starting with the earliest segment selected.



Segments in original order: #1(Blue) #3(Lilac) and #5 (Gold) are selected.



After Resequencing Consecutively; #3 and #5 have been re-ordered to right after #1

## Setting the Sewing Sequence Automatically

You can set the sewing sequence for segments in one step. The Auto Sequence command takes the segments you select and, depending on the settings you choose, determines the sequence order, trims, stops and starts, and lock stitches for the segments.

### To set the sewing sequence automatically:

- 1 Select the segments.

- 2 Right-click and choose Auto—Auto Sequence from the shortcut menu.  
*You see the Auto Sequence dialog.*
- 3 In the Sequencing Order area, click one of the following options:
  - ◆ None.
  - ◆ Minimize Jump.
  - ◆ Minimize Color Change.
- 4 In the Start/Stop area, select Auto Start/Stop to make Tajima DG16 by Pulse set the start and stop points for you.
- 5 In the trim area, select one of the following options:
  - ◆ Never.
  - ◆ Always.
  - ◆ Trim At to place a trim if the distance between stitches is longer than the distance displayed in the trim At box.
- 6 In the Lock Stitch area, select one of the following options:
  - ◆ Never.
  - ◆ Always.
  - ◆ Around trim to place a lock stitch before and after the trim.
- 7 Click OK.

## Setting the Start and Stop Points Automatically

You can set the start and stop points to adjust the closest-point connections for a design in one step. The Auto Start/Stop command is ideal if you have digitized numerous segments and want to save time by letting Tajima DG16 by Pulse set the start and stop points for you.

### To set the start and stop points:

- 1 Select the segments.
- 2 Right-click and choose Auto—Auto Start/Stop from the shortcut menu.

## Using Elements

The Elements feature is a new way of organizing a number of segments in a design file for easy re-use. With Elements, you are able to organize segments in an embroidery design into sets; effectively, you build up a set of 'mini-designs' that can be used again and again, by simply selecting and copying them. For example, in a design showing a plant with leaves and flowers on it, the stem can be one element, the leaves another, and the flower yet another. The segments that make up each of these Elements are displayed together in the Element List view.



*Multiple designs created from a number of elements.*

Each element can be treated as an independent unit, and can therefore be transformed in many ways – rotated, resized, reflected, and so on – as much as is needed. Using the Elements feature does not add any trims or color changes to the design; therefore, you can have all the advantages of working with a set of small, independent designs, without the drawback of increased sew-out time that would arise from actually digitizing them as separate units.

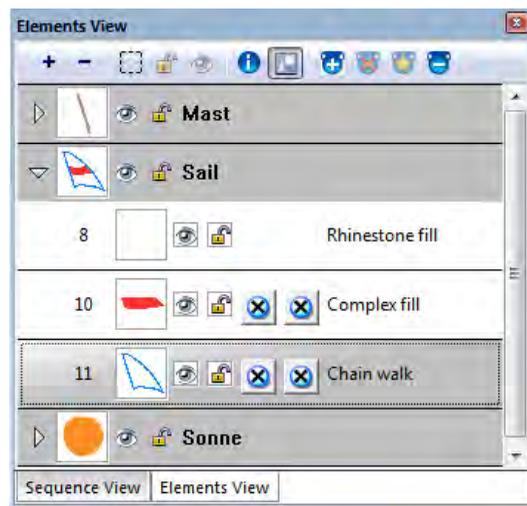
A further advantage to using Elements is that a consistent look is achieved, because the same Element can be reused in each of several distinct contexts.



Open the Elements from the menu bar by selecting View—Toolbars and Docking Windows—Element List.

## The Element List View

The segments that make up each element that you create are displayed together in the Element List view.



The Elements feature shares a similar look to the Sequence View panel, and many of the options on the panel are the same; these are Expand All, Collapse All, Show/Hide, Lock/Unlock, Show details, and Show Layer Icons.



Although the Elements list has much the same appearance as the Sequence list, they are entirely independent concepts; creating and modifying elements does not affect the sewing order.

## Special Elements Tools

Besides the tools that are shared in common with the Sequence View, there are four specialized tools on the Element List. These tools are used to add new elements, rename a selected element, and remove all or part of an element from the view.

These tools and their functions are summarized in the following table:

Tool	What it does
 Add	Adds a segment or set of segments to the Elements list;  OR  Adds a segment or set of segments to an existing Element.
 Delete	Deletes the selected Element from the list of Elements.
 Rename	Opens the Set Element Name dialog.
 Remove	When one or more of the segments that comprise the Element are selected, will delete that part of the Element, leaving the rest of the Element intact.

## Creating a New Element

### To add a new Element:

- 1 To open the Elements View, select View—Toolbars and Docking Windows—Element List.
- 2 Select the segments in your design that you want to make into an Element.
- 3 Click the **Add element**  button.  
*You see the **Add to Element** dialog box.*

- 4 Click on the **New...** button.

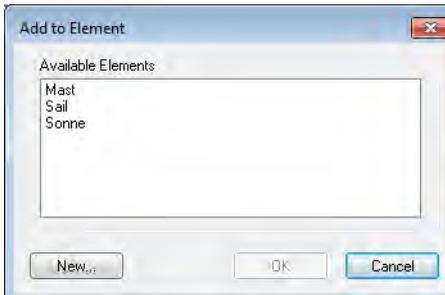
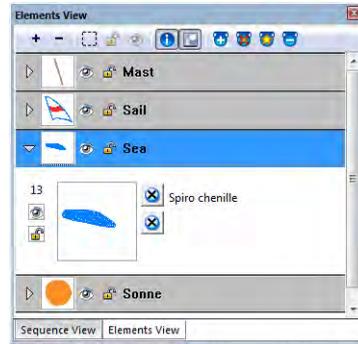
*You see the **Set Element Name** dialog.*



- 5 Type a name for the Element in the box.

- 6 Click OK.

*The new element is added to the list in the Elements List panel.*



# CHAPTER 15

## Using Paths

Tajima DG16 by Pulse offers a variety of ways to generate paths for your embroidery designs. You can have more control when you use Bezier, Straight, and QuickDraw modes for lettering and digitizing. You can use the arc, circle and freehand modes for digitizing as well. For precise control of paths, Tajima DG16 by Pulse allows you to alter anchor points and angle line beads in a few easy steps.



When performing major design editing, you should be careful of how other segments will be affected. For more information on the general rules of editing segments, see "Editing Segments".

*Topics covered in this chapter:*

- Using the Artwork tools to draw various types of lines.
- Anchor point editing.
- Working with beads.

# Drawing Lines

## Bezier Curves Introduction



Anchor points should be placed at the end of the curved lines instead of in the middle. When you place the anchor points on the ends, it is easier to edit and control the shape of the curves.

You want to use as few anchor points as needed to fit the curve.

Tajima DG16 by Pulse's Text and Line Vertical tools, Digitizing tools, and Artwork tools use Bezier curves to make paths. Similar to vector drawing programs such as CorelDRAW™ and Adobe Illustrator™, you draw lines by setting anchor points and curves by dragging direction points and lines. It takes some time to get accustomed to drawing Bezier curves, but they give you flexibility and control in computer graphics.

Practise drawing curves by tracing artwork or drawing basic shapes using Bezier curves. You need to control the shape and size of the curve when you are drawing. The length and slope of the direction line determines the shape of the curve. The angle by which you drag the direction points affects the curve's shape and size.

## Creating Bezier Curves

**To create the two simplest Bezier curves:**

- 1 In the Digitizing toolbar, click the tool you want to use.
- 2 Do one of the following steps to punch a segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.

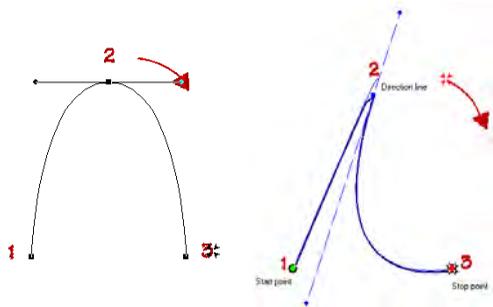
- ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press **O** on your keyboard to close the segment.

- 3 Press **ENTER** on your keyboard to complete the segment.
- 4 In the Edit toolbar, click the Vertex Select  tool.

*You see the direction points and direction lines for each anchor of the active segment.*

- 5 To create simple bezier curves, do the following:

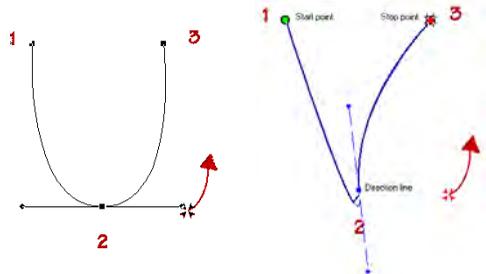
- ♦ Drag the bottom point of the direction line downward to create an upward curve (bump).



**Bezier curve**

**Modified Bezier curve**

- ♦ Drag the top point of the direction line upward to create a minimum (rut).



**Bezier curve**

**Modified Bezier curve**

- 6 Press **G** to generate stitches, if required.

## Tips

- You need to have the Show Dots  tool selected to see the anchor points, direction points, and direction lines on your path.
- Use the Select  tool to select anchor points and the Vertex Select  tool to select anchor points and direction points. When you use the Select tool to select anchor points, the direction points of each anchor will be displayed only when the anchor is selected.
- Using the Vertex Select  tool, right-click the anchor point and choose a command from the Vertex/Point Editing shortcut menu to edit anchor points.
- Use the Drag Anchor Path  tool to quickly reshape any outline segment (artwork or outline embroidery). The Drag Anchor path tool will move the section of the path in between anchor points (vertices), rather than moving the anchor points themselves.  
Note that the segment must first be selected with the Select tool before the Drag Anchor Path tool can be applied.

For outline embroidery segments, stitches will be regenerated automatically when the path is moved, provided that “Generate stitches automatically after node edit” is selected in the User Settings dialog. See “Setting up Tajima DG16 by Pulse— Stitch Generation Settings”



## Creating Cusp Points for Curves

You can create cusp points when you place anchor points. Cusp points allow you to manipulate both end points and control the shape of the curve.

### To create cusp points for curves:

- 1 While you are placing anchor points, press **CTRL**.
- 2 Drag the end point to control the shape of the curve.
- 3 Release **CTRL** and the mouse button.
- 4 Reposition the pointer and continue placing anchor points.

## Drawing Curved Lines

You can draw curves and complex shapes with Bezier curves. You create curves by dragging direction lines and points.



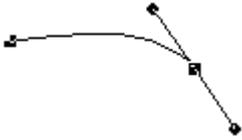
If you make mistakes as you draw, you can undo your last action by pressing Backspace on your keyboard.

### To draw curved lines:

As an example, this procedure describes how to draw a leaf. For lettering, you probably do not want to create a leaf as a baseline; however, this procedure will show you how to create curved lines.

- 1 To draw a shape for a segment, select the Run  tool.
- 2 On the design workspace, position the cross hair where you want to place the anchor point and click to place the point.
- 3 Position the cross hair where you want the next anchor point. Click and hold to place the point.

- 4 Without releasing the mouse button, drag upwards to create a curved line.



- 5 Position the cross hair where you want the next anchor point. Click and hold to place the point.

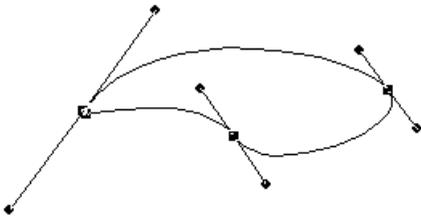


To change the effect for curved lines, see "Creating cusp points for curves".

- 6 Without releasing the mouse button, drag downwards to create a curved line.



- 7 Position the cross hair at the first anchor point. Click and hold to place the point.  
8 Without releasing the mouse button, drag downwards to create the top of the leaf.



- 9 Press **ENTER** to complete the segment.

## Forcing Horizontal and Vertical Lines

You can force horizontal and vertical lines while you punch with a variety of Digitizing tools, excluding Column and Enhanced Column. Think of this feature as an electronic T-Square, a drafting tool for drawing or measuring parallel or perpendicular lines. When this drawing mode is used, the next line is a plane that starts from the last point that was punched. You can use this drawing mode to create perpendicular lines. The table below describes the commands.

Function Key	What it does
F2	Horizontally aligns the next point you punch with the previous point creating a straight line.
Shift + F2	Vertically aligns the next point you punch with the previous point creating a straight line.



You can also draw straight lines by using **SHIFT** to constrain lines to 15° increments for all of the digitizing tools. For more information, see "Drawing diagonal lines".

### To create a horizontal line:

- 1 In the Digitizing toolbar, click the tool you want to use.
- 2 On the design workspace, position the cross hair where you want to place the anchor point and click to place the point.
- 3 To place your next point horizontally from the last point, press **F2**.  
*This puts you in Force horizontal mode.*
- 4 Position the point with the center of the cursor.
- 5 Click the left mouse button to place the new point.  
*The new point is placed horizontally from the previous point.*

- To exit the Force horizontal mode press F2 again.

### To create a vertical line:

- In the Digitizing toolbar, click the tool you want to use.
- On the design workspace, position the cross hair where you want to place the anchor point and click to place the point.
- To place your next point vertically from your last point press, Shift + F2.  
*This puts you in Force vertical mode.*
- Position the point with the center of the cursor.
- Click the left mouse button to place the new point.  
*The new point is placed vertically from the previous point.*
- To exit the Force vertical mode press Shift + F2 again.

## Drawing Diagonal Lines

You can draw lines constrained to 15° increments. You can also create zigzag lines using this command.



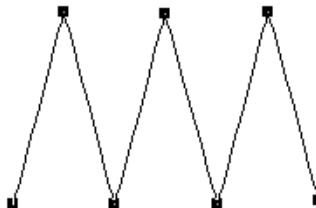
If you make mistakes as you draw, you can undo your work by pressing Backspace.

### To draw lines at 15° increments:

As an example, this procedure describes how to draw zigzag lines.

- To draw a shape for a segment, in the Digitizing toolbar, select the Run  tool.
- On the design workspace, position the cross hair where you want to place the anchor point and click to place the point.
- Position the cross hair where you want the next anchor point.
- Hold down shift.

- Position the cross hair to create a diagonal line and click to place the second anchor point at a 15° increment.
- Repeat step 5 to create a series of diagonal lines.



- Press **ENTER** to complete the segment.

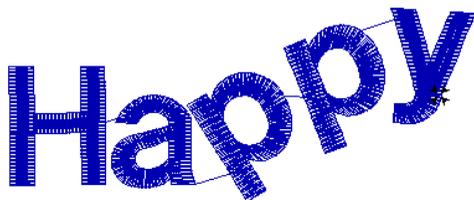
## Drawing Modes for Lettering

A drawing mode is a method of inputting anchor points. The drawing mode chosen depends on the shape you want to create. Bezier and QuickDraw are the drawing modes for lettering. When you create lettering with the Text or Line Vertical tools, the drawing modes let you create your own baselines for lettering.

### 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.

If you have switched to a different drawing mode, you can switch back into Bezier mode by pressing **B** on your keyboard.



Lettering created in Bezier mode

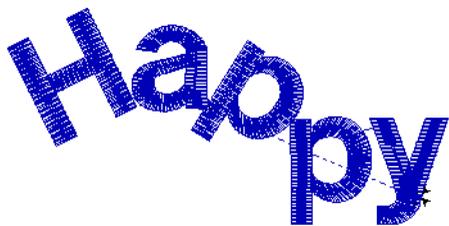
## QuickDraw mode

QuickDraw mode gives you the flexibility and control you need to toggle between entering straight and curved points for lettering. To place a straight point, left-click the design workspace. To place a curved point, right-click the design workspace.



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

To use QuickDraw mode, press **Q** after you have clicked the Text lettering tool.



Lettering created in QuickDraw mode

## Drawing Modes for Digitizing

A drawing mode is a method of inputting anchor points. The drawing mode chosen depends on the shape you are creating. The

digitizing levels let you use all the drawing modes that include Bezier, Straight, QuickDraw, Arc, Circle, and Freehand. The status line displays the letters associated with the drawing modes. You can use the drawing modes with the Run, Complex Fill, Steil, Sequin, Satin Path, Appliqué, etc. but the digitizing tools available depend on the Tajima DG16 by Pulse level you are using.

## 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.

To switch back to Bezier mode, press **B**.



## Straight mode

Straight 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.



## QuickDraw mode

QuickDraw 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**.

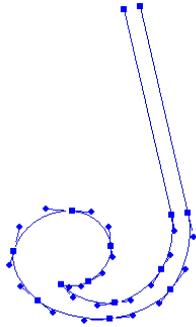


Curved points should be entered as a set of 3 points that define the arc of the curve.

To enter QuickDraw mode, press **Q** after selecting the digitizing tool you want to use.



Design



Section of design traced using QuickDraw

## Arc mode

Arc mode requires you to place three points to make an open arc. If you have already placed an anchor point with another drawing mode, you need to enter two more points to create the arc.

To use Arc mode, press **A** after you have clicked the digitizing tool you want to use.

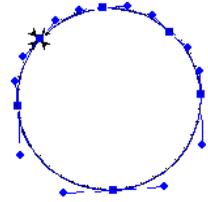
## Circle mode

Circle mode requires you to place three points. Once you place the third point, you see the circle.

To use Circle mode, press **R** after you have clicked the digitizing tool you want to use.

x

x



Path

Segment

## Freehand mode

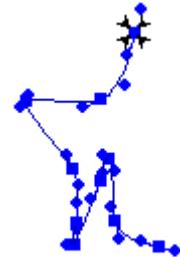
Freehand mode allows you to plot points by clicking and dragging. It does not allow you to see the shape until all points are plotted and you complete the route for the segment. To complete the route, press **ENTER** after you plot all points.

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.

To use Freehand mode, press **F** after you have selected the digitizing tool.



Path



Segment

## Drawing Straight Lines

You can draw a straight line by creating a starting anchor point and an ending anchor point.

### To draw straight lines:

- 1 To draw a shape for a segment, select the Run  tool from the digitizing toolbar.
- 2 On the design workspace, position the cross hair where you want to place the Anchor point and click to place the point.
- 3 Position the cross hair where you want to end the line and click to place the point.
- 4 Press **ENTER** to complete the segment.

## Setting the Default Drawing Mode

Tajima DG16 by Pulse allows you to select the default drawing mode you want to use for most Bezier based digitizing tools. (Bezier is the default drawing mode until you change settings in the User Preferences property page.)

You can set any of the following drawing modes as default:

- Arc
- Bezier
- Circle
- Freehand
- QuickDraw

### To set the default drawing mode:

- 1 On the Ribbon, select Tools tab—User Settings .   
*You see the User Settings property pages.*
- 2 Click on General in the Menu.   
*You see the General property page.*

- 3 In the Default draw mode for entry tool list, select the default drawing mode you want to use when you select entry tools for your design.
- 4 Click OK.

## Vertex and Point Editing

### Adding and Deleting Anchor Points

You can add or delete anchor points on any path. When you add anchor points you have finer control over the shape of the path. When you delete anchor points you simplify the path and change the shape.

#### To add an anchor point:

- 1 In the Edit toolbar, click the Vertex Select  tool.
- 2 Right-click the location where you want to add an anchor point.   
*You see a shortcut menu.*
- 3 Choose Add Anchor from the shortcut menu.

#### To delete an anchor point:

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

#### To delete an anchor point using the Delete Outline tool:

- 1 Select a segment.

- In the Edit toolbar, click the Delete Outline  tool.  
*The pointer becomes a pencil eraser when you scroll your mouse over anchor points.*
- Click the anchor point you want to delete.
- Continue clicking the anchor points to delete multiple points.

## Inserting Multiple Anchor Points into a segment

When you are in Vertex Select mode, there is now an option that allows you to quickly add a number of anchor points to a segment in sequence. Points may be added either before or after the selected anchor.

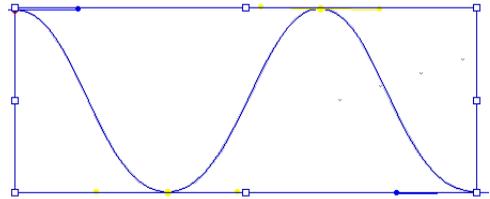
### To insert multiple anchors:

- Select an outline segment.
- Using the Vertex Select  tool, select an anchor point.
- Right-click on a node.  
*You see a context menu.*
- Select Insert-before or Insert-after from the context menu.

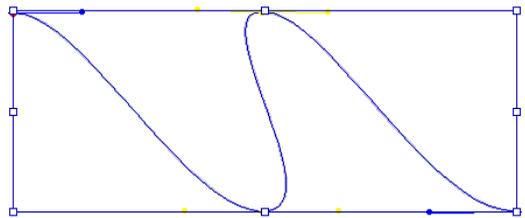
## Aligning Anchor Points

You can move two or more anchor points to a position that is the average of their current locations. You can select the average distance

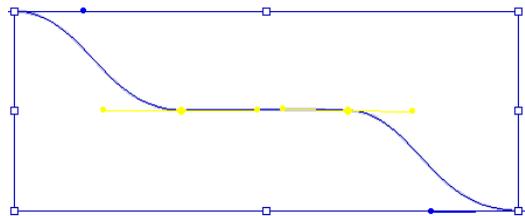
vertically or horizontally. The following figures show two anchor points before and after they have been aligned horizontally and vertically.



Original Artwork with two anchors selected



Horizontal Average alignment



Vertical Average alignment

### To align anchor points:

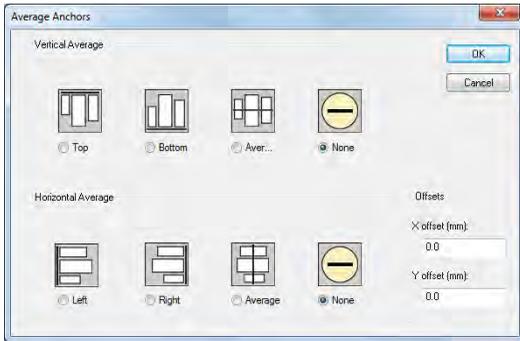
- To select anchor points, do one of the following:
  - Select the Vertex Select  tool.
  - Press **N** on the keyboard.
- Select the anchor points you want to align.



To select multiple anchor points, press **Ctrl** while clicking.

- Right-click one of the selected anchor points and choose Average Anchors from the shortcut menu.

*You see the Average Anchors dialog.*



- In the Vertical Alignment area, select one of the following: Top, Bottom, Average or None.
- In the Horizontal Alignment area, select one of the following: Left, Right, Average or None.

To quickly average anchors, you can use the

Average Anchors Horizontally  tool or



Average Anchor Vertically  tool. This will have the same effect as selecting “average” in the Average Anchors dialog.

- (Optional) You can include some offset (positive or negative) when aligning the anchors. The offset thus specified will be applied to all selected anchors, after they have been aligned or averaged.

To add an amount of offset, do the following:

- To offset points horizontally, enter the distance (in mm) in the “X offset (mm)” field.
- To offset points vertically, enter the required value (in mm) in the “Y offset (mm)” field.

- Click OK.

*You see the segment altered accordingly.*

## Changing the Properties of an Anchor Point

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

### To change an anchor point to cusp, smooth, symmetric, or straight:

- In the Edit toolbar, click the Vertex Select

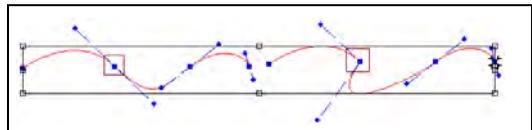
 tool.

- Right-click the anchor point you want to change.

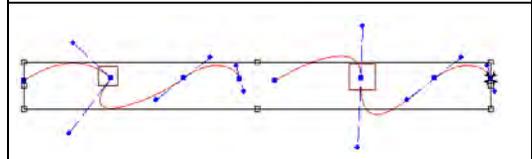
*You see a shortcut menu.*

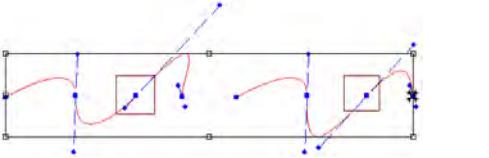
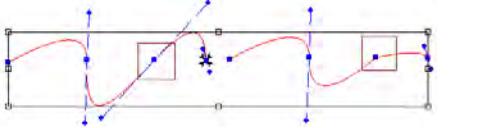
- Choose one of the following types of anchor points available:

- Convert to Cusp
- Convert to Smooth
- Convert to Symmetric
- Convert to Straight



Segments before and after **Convert to Cusp** was selected. Allows editing of the direction line on one side of the anchor point. Adds a sharp bend to a curve. You can use cusp mode by pressing **CTRL** while you edit a segment.



<p>Segments before and after <b>Convert to Smooth</b> was selected.</p>	<p>Constrains the angle of the direction lines to 180° 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.</p>
	
<p>Segments before and after <b>Convert to Symmetric</b> was selected.</p>	<p>Constrains the angle of the direction lines to 180° 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.</p>
	
<p>Segments before and after <b>Convert to Straight</b> was selected.</p>	<p>Removes the direction lines from the anchor point. Creates a straight point without any curved properties.</p>

## Tip: Toggling between Anchor point types

There is a quick way to convert between different types of anchor points, without using the context menu. To do this, select a segment using the Vertex Select  tool. Then, hold down the **Ctrl** key while right-clicking on the point you want to change.

The type of anchor point that results from this change depends on the initial anchor point type, in the following manner:

- Smooth points change to Straight points.

- Straight, Cusp, and Symmetric points change to Smooth points.

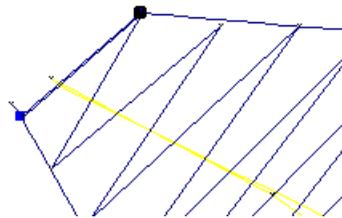
## Moving Anchor Points

You can move and drag anchor points to adjust the shape of a curve. You can use the Vertex Select  tool or the Select  tool.

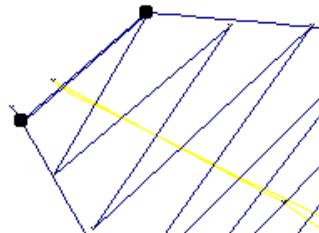
You can also move the a selected segment by an exact amount using the Move Anchor dialog.

### To move anchor points:

- 1 In the Edit toolbar, click the Vertex Select  tool.
- 2 Click the anchor point you want to move.



- 3 To select more than one anchor point at the same time, press Shift on your keyboard and click the other anchor points you want to move.



- 4 Drag the anchor point to create the desired shape for the segment.
- 5 Press **G** to regenerate stitches.

**To move anchor points with the dialog:**

1 In the Edit toolbar, click the Vertex Select tool.



2 Click the anchor point (or points) you want to move.

To select more than one anchor point at the same time, press CTRL and click the other anchor points you want to move.

3 Right-click, and select "Move anchor..." from the context menu.

*You see the Move Anchor dialog.*



4 Enter the required horizontal (X) and vertical (Y) displacements for the point(s).

5 Click OK to complete the move and close the dialog.

**Snap to Anchor Point**

A new feature on the View menu makes it possible to have an anchor point on one segment automatically to snap to an anchor point on another segment, when you are adjusting the position of anchors with these points with the Vertex Select tool.

This can be used when trying to get linear segments (for example, Pen artwork) to line up exactly; when you drag the end of one segment to the beginning of the other, the two terminal points will snap together to make a continuous line.

**To use Snap to Anchor:**

1 Create a design with two or more outline segments.

2 To Enable Snap to Anchor, do one of the following:

- ♦ Press click F3.
- ♦ Select View—Grid—Snap to Anchor.

3 Using the Select tool or Vertex Select tool, select one of segments.

4 Drag the selected segment towards the other segment until the anchors you want to attach snap together.



The two segments can now be combined, if desired, by selecting the "Connect Shapes" tool on the Artwork toolbar.

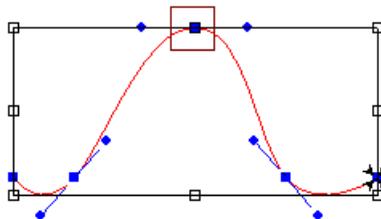
**Splitting and Joining Anchor Points**

You can split and join anchor points to give you more control over the shape of curves.

**To split an anchor point:**

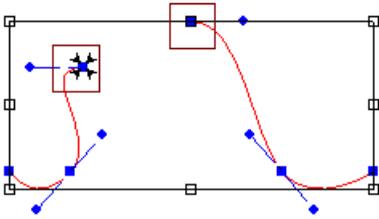
1 Select the segment.

2 In the Edit toolbar, click the Vertex Select tool.



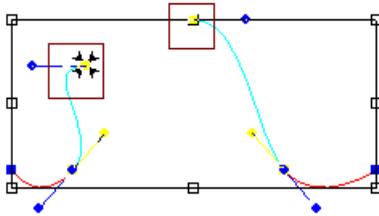
3 Right-click the anchor point you want to split and choose Split Anchor from the menu.

4 Click and drag the anchor point to a new location along the path.

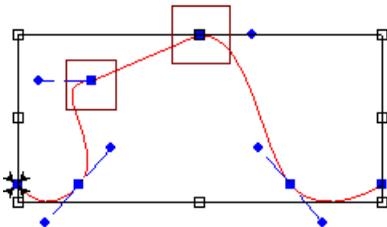


### To join anchor points:

- 1 Select the segment.
- 2 In the Edit toolbar, click the Vertex Select  tool.
- 3 Click one of the anchor points you want to join to another.
- 4 Hold down **SHIFT**.
- 5 Click the second anchor point.



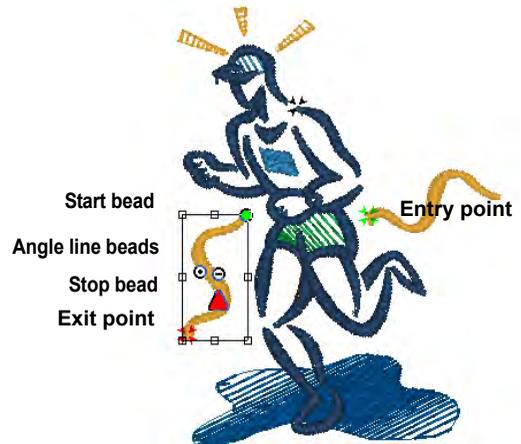
- 6 Right-click and choose Join Anchors from the shortcut menu.



## Working with Beads

### Types of Beads

Tajima DG16 by Pulse uses a number of different bead types. Beads are placed on paths to provide information about the stitches on the paths. The different bead types include Start beads, Stop beads, Angle line beads, Slice Line beads, Corner beads, and Sequin. You can slide these beads along a path like beads on a piece of string, allowing you to move them precisely where you want them.



### Changing the Location of Beads

Start and stop points, angle line beads, and slice line beads are all moveable beads that you can drag to change the location.



You can also press the ~ key (tilde) on your keyboard and click the new start location, and then click the new stop location.

### To change the location of beads in segments:

- 1 Do one of the following:

- ◆ In the Edit toolbar, click the Select  tool.
- ◆ In the Edit toolbar, click the Angle Lines  tool.

*Your cursor becomes a triangle with a bead.*

- 2 Left-click the bead and drag it to the new location.

## Swapping the Start and Stop Bead Locations

When digitizing a segment by converting it from artwork, the Start and Stop beads will be placed automatically. Sometimes, you will find that they will not be placed in the desired locations in the context of a given design.

Swap start and stop beads is a command that is a quick way to switch the locations of the Start and Stop beads; it can be applied to any and all segments that contain these beads.

### To swap the locations of Start and Stop beads:

- 1 Ensure that the Show Beads  setting is on.
- 2 Select the segment.
- 3 Right-click on either the Start or the Stop bead.  
*A context menu appears.*
- 4 Select “Swap start and stop beads” from the menu.  
*The location of the start and stop beads will be swapped.*

## Using Smart Join Mode

The Smart Join mode automatically updates the entry and exit locations (green and red beads, respectively) of consecutive segments

in the sewing sequence, such that the closest point connections are made. This minimizes the length of any connections that must be made between adjacent segments.

- To turn on Smart Join, select Segment—Smart Join mode, or press Ctrl + J.

It is also possible to apply Smart Join Mode retroactively to existing segments. This will automatically move the existing entry and exit points of these segments to the nearest point connections.

- To apply Smart Join Mode to the selected segments, right-click the segments and choose Auto—Smart Join, or press Ctrl+Shift+J.

## Adding Angle Lines to Segments

You can smooth the angle of stitches in Satin segments by adding additional angle lines to the segment, using the Angle Lines  tool. This tool can also be used to move and duplicate angle lines. For more information, see “Direction Lines and Points” in the glossary.

### To add more angle lines:

- 1 In the Edit toolbar, click the Angle Lines  tool to select the segment you want to edit.  
*Your cursor becomes a triangle with a bead.*
- 2 Add the Angle Line where you want making sure that you are adding it in the same direction as the existing Angle lines.  
*You can drag the Angle Line beads in different directions to change the angle that the stitches will sew.*

## To add more angle lines by copying an existing bead:

- 1 In the Edit toolbar, click the Angle Lines  tool.  
*Your cursor becomes a triangle with a bead.*
- 2 Place the pointer over the existing Angle Line bead you want to copy.
- 3 When the pointer becomes a small arrow, click the existing Angle Line.
- 4 Hold down CTRL and drag the selected Angle Line to the right or to the left to create an additional angle line.  
*You can drag the Angle Line beads in different directions to change the angle that the stitches will sew.*

## Adding Slice Lines to a Segment

It is possible to add your own “virtual” slices to a Satin segment with the Slice Lines  tool. These lines allow the a you to create a change of direction of sewing in a satin segment, without actually dividing the segment up into multiple outlines. For more information, see “About Slice Lines”.

### To add slice lines to a satin segment:

- 1 In the Edit toolbar, select the Slice Lines  tool.  
*Your cursor becomes a triangle with a bead.*
- 2 Select the segment you want to add the slice line to.
- 3 Click on one side of the outline and drag to the other to ‘draw’ your slice line.

*The segment will now be virtually sliced by the line you drew.*



You can drag the Slice Line beads after they have been placed to change the position of the virtual slice. If you hold down the **CTRL** button while doing so, you can copy and paste a new Slice Line into the path, which will be at the same angle as the original.

## About Slice Lines

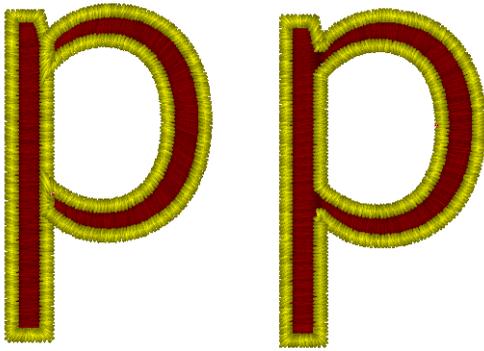
Slice Lines appear as yellow dots connected by a black line. They are generated automatically on satin path segments when you use the Auto Breakup feature, but you can also add or adjust slice lines manually with the Slice Lines  tool.

These lines create what is called a “virtual slice”, which effectively breaks up a satin path, treating it as if it were two or more shapes.

Note, however, that this break up does not actually create any new outlines. This can be very useful if you wish to apply a second stitch type to the segment, such as a Steil border, which will run along the original outline of your segment (see the example below).

You can create outlines along the Slice Line path using the Breakup  tool (or Ctrl+K). This will break the satin into separate segments, which can only be re-connected by branching. See “Branching Existing Segments.”

If you slice the segment in the conventional manner (with the Slice or Curved Slice tools), a new outline will be created where you slice; any new stitch type you add will follow this outline. With Slice Lines, on the other hand, the added stitch type will follow the original outline, bypassing the Slice Line. This can often serve to create a ‘cleaner’ look when adding borders to segments.



Example of how the Slice lines help when using the outline of a satin segment. Two identical outline shapes were converted to satin paths. In the letter on the right, two slices have been added with Slice tool, to separate the bowl of letter from the straight section; The letter on the left has Slice Lines in the same place. Note how the Steil segment, when added to the left figure, goes only around the edge.

## Exchanging Beads on Angle and Slice Lines

You can use the Swap beads command to give you precise control over the position of angle line beads and slice line bead. If you place a bead in the wrong position, you can use Swap beads to exchange the positioning of the pair of beads.

For example, you may need to use Swap beads when you use the Custom Cornering commands in some levels of the software. If you place the angle line bead with the dash instead of the dot at the sharpest corner, the Custom Cornering command may not produce the desired result.

### To exchange beads in angle or slice lines:

- Do one of the following:
  - To swap beads on an angle line, select the Angle Lines  tool.

- To swap beads on a slice line, select the Slice Lines  tool.

Your cursor becomes a triangle with a bead.

- Right-click the angle line bead and choose Swap beads from the shortcut menu. The position of the beads will change accordingly.

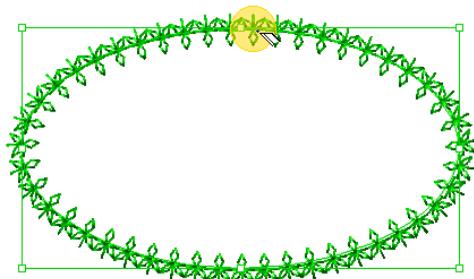
## Copy Partial Path

The Copy Partial Path  tool is used to create an exact copy of a section of an existing path segment. You determine the start and end points of the copied path by clicking the original path in two places (this is similar to the way that Slice tool works); the cursor will “snap” to the path automatically.

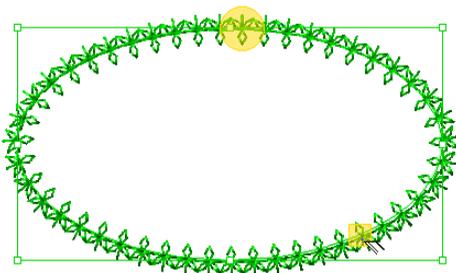
When the partial path is generated, it can be selected and/or copied and pasted elsewhere.

### To use copy partial path:

- Select a path segment with the select tool.
- On the Path Edit toolbar, select the Copy Partial Path  tool.
- Click on the path at the start point of the segment. A round bead appears on the segment.

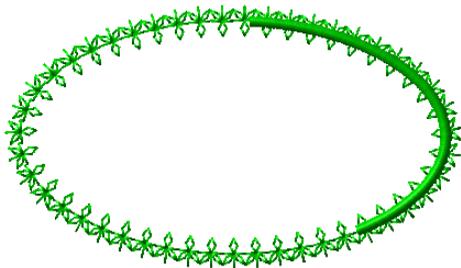


- Click at the place where you want the copied segment to end.  
*A square bead appears on the segment.*



- Press Enter (or right-click) to generate the copied path.  
*The partial copy of the path is generated.*

By default, the copied path will run clockwise from the first point to the copied path (round bead) to the second (square bead). If you want the path to run in the counter-clockwise direction, press **Shift+Enter** or **Shift+right-click** at step 5.



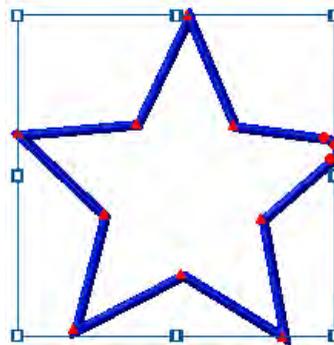
## Rounded Corners

The Rounded Corner  tool allows you easily create a rounded corner from a sharp corner. To use this tool, select an anchor point at a corner and drag it inwards. The amount of curvature that results will correspond to how far the anchor point is pulled in from the initial position.

This tool can be applied to an Artwork path or any outline embroidery segment

### To make rounded corners:

- Using the Select  tool, select an outline segment.
- On the Path Edit toolbar, click the Rounded Corner  tool.
- Click and drag a corner anchor.  
*The outline changes smoothly to match the position of the anchor as you move it.*



- Click and drag other corners, as required.
- If the segment is an embroidery segment, Press G to generate the stitches in the new position.



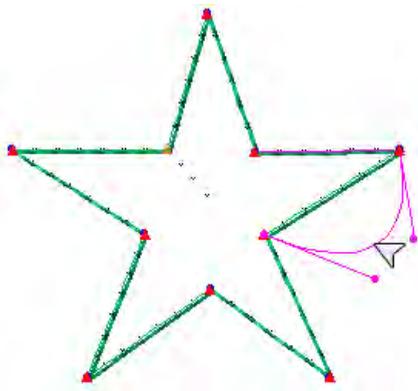
- Save the design.

## Drag Anchor Path

Drag Anchor Path  tool is useful for editing outline shapes. Use this tool to reshape paths by simply clicking and dragging paths between nodes (anchor points), rather than on the nodes themselves. The selection will be reshaped when the mouse button is released. In the case of embroidery segments, the stitches will automatically be regenerated as well.

### To use the Drag Anchor Path tool.

- 1 Using the Select tool, select an outline segment.
- 2 On the Node Edit toolbar, select the Drag Anchor Path  tool.
- 3 Click on a portion of path between nodes and then drag to move the path.



- 4 When the line reaches the desired position, release the mouse button.  
*The line will be regenerated in the new position.*

## Auto Breakup

The Auto Breakup command is a quick way to improve the stitch direction in satin segments. The Auto Breakup function works by choosing the optimal places to add virtual Slice Lines and Angle Lines to any satin path. For more information, see “About Slice Lines” and “Adding Angle Lines to Segments.”

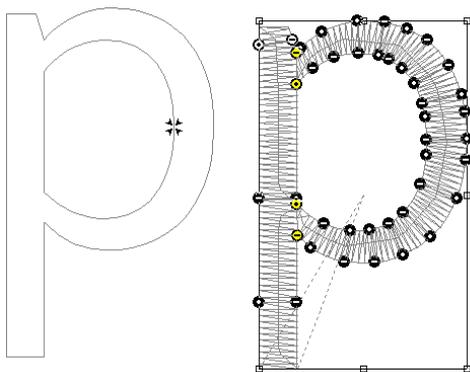
For example, you can import a TrueType® font or an Adobe Illustrator (\*.ai) file, convert it to Satin Path (see “Applying Stitch Types to Artwork Segments or Path Segments”), and then use the Auto Breakup command to add Angle Lines and Slice Lines.

### Applying Auto Breakup to a Satin Segment

#### To add angle lines automatically:

- 1 Select a satin segment.
- 2 Do one of the following actions:
  - ♦ Press SHIFT + Z on the keyboard.
  - ♦ Press Ctrl+E on your keyboard and choose Auto—Auto Breakup from the shortcut menu.

*Slice lines and direction lines will be automatically added to your satin segment.*



*The figure on the left is a straight vector artwork segment; at right, the identical figure was made into a satin path with the Convert tool, and has then had Auto Breakup applied. The Slice Lines (yellow beads) and Direction Lines (black beads) have been added so as to optimize the sewing.*





# CHAPTER 16

## Using Artwork Tools

You can modify artwork segments and apply various stitch types to your designs using Tajima DG16 by Pulse's artwork tools. Use the Auto Trace mode to adjust the color tolerance of an image when tracing a shape. Use the Import Artwork tool to load vector files as artwork segments. To modify your artwork segments, you can choose to join, separate or split path segments. You can also add multiple stitch types to segments and resequence stitch types on the same segment.

*Topics covered in this chapter:*

- Creating open and closed shapes.
- Importing TrueType® fonts and vector files.
- Shape Artwork tools, which enable you to modify artwork segments.
- How to apply stitch types to vector artwork segments.

## Auto Tracing Artwork

You can use Auto Trace mode to detect contours and trace an image to produce an artwork segment. Auto Trace mode supports Bezier curves, allows you to adjust the color tolerance of an image, and recognizes holes when tracing a shape.

You can also use the Line Autotrace button within Auto Trace to create an imaginary line that traces the midline of the selected Artwork. This is useful for creating a border for your artwork using a run or steel stitch.

### To auto trace artwork:

- 1 Choose Image—Load to load the image you want to trace.  
For more information, see "Loading Images for Digitizing".  
*You see the image in the workspace.*
- 2 In the Digitizing toolbar, select one of the Complex Fill , Run , Steel , or Satin Path  tools.  
*You can auto trace by selecting any digitizing tool that supports closed shapes: Complex Fill, Run, Steel, or Satin Path. This will give you a segment of that type. You can also use the auto trace tool from the Artwork toolbar. This creates an artwork segment which can be converted into any stitch type. For more information on converting artwork segments to various stitch types, see "Applying stitch types to artwork segments or path segments".*
- 3 To open the Auto Trace palette, press **T** on your keyboard.  
*You see the Auto Trace palette.*



- 4 To adjust the color tolerance for your design, use the Min and Max control settings on the palette.  
High color tolerance does not distinguish between colors in the same family such as gold and orange or burgundy and red. Low color tolerance distinguishes between close colors in the same family.
- 5 To not detect areas contained within the background of the design, complete the following:
  - ◆ Click the Without Holes button on the palette.



- ◆ To trace a portion of the image, click the image.
  - ◆ To keep the traced paths, press Enter.
- 6 To detect areas contained within the background of the design, complete the following:
    - ◆ Click the With Holes button on the palette.



- ◆ To trace a portion of the image, click the image.
  - ◆ To keep the traced paths, press ENTER on your keyboard.
- 7 To use Line Autotrace to create a double line in the middle of the artwork, do the following:
- ◆ Click the Line Autotrace button on the Auto Trace panel



- ◆ Click on the image to generate the path.
  - ◆ To keep the traced paths, press ENTER on your keyboard.
- 8 To view the current color in your design, look at the Current Color area when tracing your design.

## Creating Closed Shapes

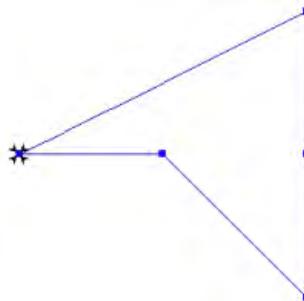
The Pen tool allows you to create closed paths using Bezier curves. The Bezier drawing method is used for all Digitizing tools and Artwork tools. You can use three different modes – Bezier, Freehand and Arc – to create shapes, and then apply a stitch type to the path segment.

### To create a closed shape:

- 1 In the Artwork toolbar, click the Pen  tool.
- 2 To create a closed shape, click the design workspace to place the anchor points in your design and press **O** on your keyboard to close the segment.
- 3 To complete the segment, press **ENTER**.



If you want to increase or decrease the size of the art segment, you can resize it by dragging on the corners of the handles.



## Creating Open Shapes

The Pen tool lets you create open shapes using Bezier curves. The Bezier drawing method is used for all digitizing and artwork tools. You can also use the different Bezier modes to create different shapes. You can apply a stitch type to the path segment after

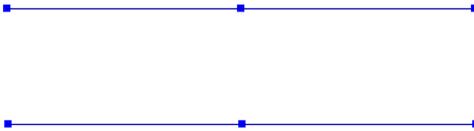
you create it. See "Applying stitch types to artwork segments or path segments".

### To create an open shape:

- 1 In the Artwork toolbar, click the Pen  tool.
- 2 To create an open shape, do the following:
  - ◆ Click the design workspace to place the anchor points in your design.
  - ◆ To draw more path segments (holes in a shape or open sides in a segment), press **T**.
  - ◆ Press **ENTER** to complete the shape.

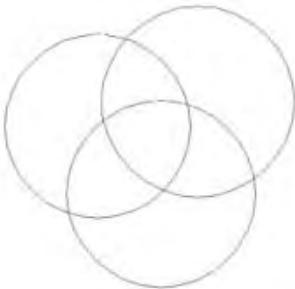


If you want to increase or decrease the size of the art segment, you can resize it by dragging on the corners of the handles.



## Drawing Ellipses and Circles

You can draw ovals and circles with the Ellipse tool. Once you have created an ellipse segment, you can apply a stitch type to it. See "Applying stitch types to artwork segments or path segments".



### To create an ellipse and circle:

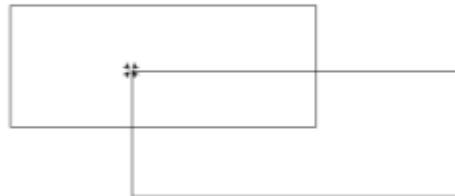
- 1 In the Artwork toolbar, click the Ellipse  tool.
- 2 In the design workspace, do one of the following steps:
  - ◆ To draw an oval, click and drag to form the oval.
  - ◆ To draw an oval with the centre point as reference, hold down **CTRL** and click and drag to form the oval.
  - ◆ To draw a circle, hold down **SHIFT** and click and drag to form the circle.
  - ◆ To draw a circle with the centre point as reference, hold down **SHIFT+CTRL** and click and drag to form the circle.



If you want to increase or decrease the size of the art segment, you can resize it by dragging on the corners of the handles.

## Drawing Rectangles and Squares

You can draw rectangles and squares with the Rectangle tool. Once you have created a rectangle artwork segment, you can apply a stitch type to it. See "Applying stitch types to artwork segments or path segments".



### To create a rectangle and square:

- 1 In the Artwork toolbar, click the Rectangle  tool.

- 2 In the design workspace, do one of the following steps:
  - ♦ To draw a rectangle click and drag from one corner to the opposite corner to form the rectangle.
  - ♦ To draw a rectangle with the centre point as reference, hold down **CTRL** and click and drag it from one corner to the opposite corner to form the rectangle.
  - ♦ To draw a square, hold down **SHIFT** and click and drag from one corner to the opposite corner to form the square.
  - ♦ To draw a square with the centre point as reference, hold down **SHIFT+CTRL** and click and drag to form the square.



If you want to increase or decrease the size of the art segment, you can resize it by dragging on the corners of the handles.

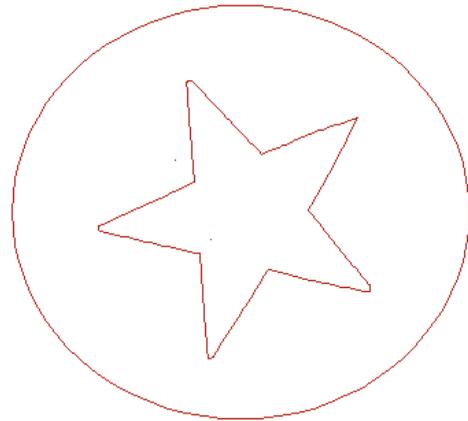
## Creating Shape Echo Artwork

The Shape Echo Artwork  tool can be used to fill the space between two nested artwork shapes with a continuous line. The line is generated in the form of a spiral, which automatically follows the contours of the inner of the two shapes selected.

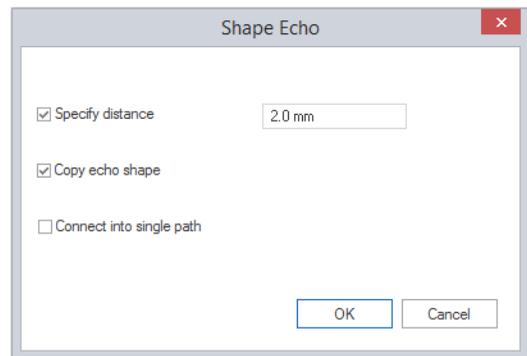
The user has the option of choosing the gap between the lines in this spiral, if desired.

### To use the shape echo tool for artwork:

- 1 Create two artwork shapes, and nest the smaller one within the larger.



- 2 Select both segments. Combine them by doing one of the following:
  - ♦ Selecting the Combine  tool on the Artwork tab of the Ribbon.
  - ♦ Pressing Ctrl+L on the keyboard.
- 3 On the Ribbon, click the Shape Echo  tool.  
*You see the Shape Echo dialog.*

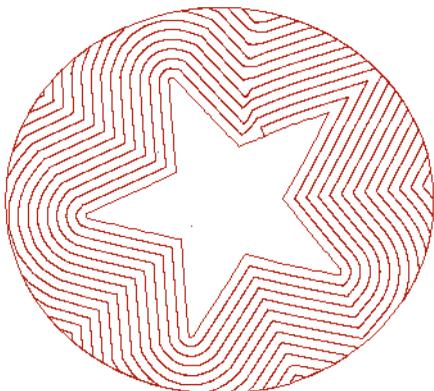


- 4 In the dialog, select one or more of the following options:
  - ♦ To specify the spacing between the lines in the spiral fill, check "Specify distance". When this option is selected,

the distance field becomes editable; enter the spacing you want in this field.

- ♦ To retain the original artwork, check “Copy echo shape”. (This will be selected by default. If unchecked, the original shape will be erased when the Shape Echo is generated).
  - ♦ Select “Connect into a single path” to create one continuous artwork. When selected, all gaps at the edge of the artwork will be closed.
- 5 Click OK.

*The area between the two shapes will now be filled with artwork in a spiral pattern.*



## Importing TrueType® Fonts

Use the Import TrueType® tool to import TrueType® fonts as a variety of segment types. You can edit artwork segments to create shapes that are appropriate for embroidery with the Slice tool. Satin Path segments require special consideration since angle lines need to be assigned to individual segments. By selecting segment types other than artwork, you can apply stitch types

immediately. You can also use the AutoBreakup command to slice a segment and add angle lines for Satin Path segments.

### To import a TrueType® font:

- 1 In the Artwork toolbar, click the Import TrueType  tool.  
*You see the Text Entry dialog.*
- 2 In the Text box, enter your text.
- 3 In the Segment Type list, choose the segment type.
- 4 To choose the type of font for your segment, do the following:
  - ♦ Click Fonts.  
*You see the Fonts dialog.*
  - ♦ Select a TrueType® font, font style, and size for your segment.
  - ♦ Click OK to close the Fonts dialog.
- 5 To complete the lettering, click OK.
- 6 Left-click to place the text artwork.  
*Each time you click the design workspace, you place another copy of the artwork.*
- 7 Right-click to complete the segment.

If you want to increase or decrease the size of the art segment, you may do so by



selecting it and using the Resize  tool in the Transformation toolbar. For more information, see “Resizing Segments”

## Importing Vector Files

Use the Import Artwork tool to load vector files as artwork segments. You can import vector formats such as Adobe Illustrator (\*.ai), CorelDRAW (\*.cdr), AutoCAD (\*.dxf), and Hewlett-Packard Graphics Language (\*.hpgl). Vector images define the various lines and curves of an image. Importing is different from loading a bitmap or \*.tif image and digitizing on top of the image because the file is treated

like an artwork segment. Tajima DG16 by Pulse separates the artwork for you and you can use the Combine  and Breakup  tools to join or separate the parts of the vector file as needed.

Before you import a vector file, you may want each artwork segment color to be assigned its own thread color. For more information, see "Assigning thread colors to imported artwork segments".

After you import a vector file, you can apply stitch types to it. For more information, see "Applying stitch types to artwork segments or path segments".

It is also possible to remove the fill color from an imported vector artwork segment, leaving only the outline of the vector artwork in place. Select the segment or multiple segments that you want to remove the fill from, and then click the Remove Fill Color  icon on the Artwork toolbar.

### To import a vector file:

- 1 In the Artwork toolbar click the Import Artwork  tool.  
*You see the Load Artwork dialog.*
- 2 In the Look in list, select the directory folder where your file is located.
- 3 Select the \*.dxf, \*.ai or other vector file you want to import.



When you import \*.dxf files, a dialog will appear asking you to choose the units of measurement for the design. You can choose to use imperial or metric units.

- 4 To access databases on the Librarian server, click Librarian.  
*If you are not logged into Librarian, the login dialog will appear. You will need to log*

*into Librarian and open a Librarian database. Then the Librarian - Load Artwork dialog will appear and you can search for an artwork design to open. If you are already logged into Librarian, you will not see the login and Open Database dialogs. For more information on opening an artwork design from Librarian, see "Opening an artwork design as a vector file".*

- 5 Click Open.
- 6 Left-click to place the artwork on the design workspace. Each time you click, you place another copy of the artwork.
- 7 Right-click to stop importing.

## Vector Formats Supported

Tajima DG16 by Pulse currently supports the following vector formats.

Format	Important Information
Adobe Illustrator (AI)	File size is limited. Use files less than 2MB in size. Text is interpreted as "Saved as Curves". No support for embedded clipart, gradient fillings, transparencies and compound path objects.
Encapsulated PostScript (EPS)	Support Adobe Illustrator up to and including Version 8.0 files. However, some color information may be omitted in AI Version 8.0 files. There is no support for AI Version 9.0 files. Save files as Version 7.0 or Version 8.0 instead.
CoreIDRAW (CDR)	Support CoreIDRAW Version 5 files.
Corel Presentation Exchange (CMX)	When exporting files in AI format from CoreIDRAW, turn off 'Simulate Complex Filled Curves' for the file to output correctly. Export files as AI Version 7.0.

Format	Important Information
Enhanced Windows Metafile (EMF)	There is currently no text support. However, converting text to curves is supported.
Windows Metafile (WMF)	
Hewlett-Packard Graphics Language (HPGL)	Currently supports basic drawing (Pen Up / Down, Plot Absolute / Relative), text (Label - LB, Symbol - SM) and configuration commands (DF, IN, IP, SC). Please see any HPGL Reference Manual for details.
AutoCAD (DXF)	Currently support the following DXF entities: point, line, polyline, circle, arc, trace, curves, and solid. Text entries are not supported.

## Copying Vector Objects from CorelDRAW® and Adobe® Illustrator®

You can now copy one or more vector objects from CorelDRAW® or Adobe® Illustrator® and paste these objects into Tajima DG16 by Pulse. Vector objects pasted into Tajima DG16 by Pulse are automatically converted into artwork segments. For more information on vector format restrictions, see “Vector Formats Supported”.

### To copy vector objects:

- 1 In CorelDRAW or Adobe Illustrator, select one or more vector objects you want to copy.
- 2 To copy the selected vector object(s), press Ctrl+C.

- 3 In Tajima DG16 by Pulse, press Ctrl+V to paste the copied vector object(s).  
*The objects appear in the Tajima DG16 by Pulse workspace. The color and shape of objects will be preserved.*



To have objects pasted off-screen fit into the design window, press W.

## Importing Draw Fusion Tools

### Using Draw Fusion Tools

If you own CorelDRAW® 12 or CorelDraw® X4 software, you can now combine the drawing capabilities of CorelDRAW® with the stitch generation of Tajima DG16 by Pulse in the same window. The Draw Fusion feature converts partial or entire artwork designs to stitches in one step by assigning stitch types and stitch directions automatically. Draw Fusion tools allow you to edit artwork and embroidery segments within Tajima DG16 by Pulse.

When Draw Fusion is integrated into Tajima DG16 by Pulse, artwork and stitch segments will be displayed with the same colors as their assigned segments in Tajima DG16 by Pulse. Embroidery segments are not displayed with stitches in Draw Fusion; however, these segments still look similar. For example, a Complex Fill segment will appear as a filled shape with the same color in Draw Fusion. A Steil segment will appear as an outline shape in Draw Fusion with a border thickness matching the Steil border width.

All changes made in Tajima DG16 by Pulse will appear in Draw Fusion and vice versa. You can complete any of the following to integrate changes and switch between Tajima DG16 by Pulse and Draw Fusion design windows:

- In Tajima DG16 by Pulse, choose Tools—Draw Fusion.
- In Draw Fusion, choose File—Switch.

A transaction occurs when you integrate changes and switch between Tajima DG16 by Pulse and Draw Fusion windows. Depending on whether you have the *Show this during transactions* setting enabled, you will see the Draw Fusion settings dialog appear each time you switch windows. The Draw Fusion settings dialog allows you to adjust how you apply edits to artwork and embroidery segments. For more information about the Draw Fusion settings dialog, see “Changing Draw Fusion settings”. To switch between design windows without integrating any design changes, click anywhere in the desired design windows.

You can display both the Tajima DG16 by Pulse design window and the Draw Fusion design window by choosing Tile from the Windows menu in Tajima DG16 by Pulse.



Text segments are not supported in Draw Fusion.

**To access Draw Fusion tools:**

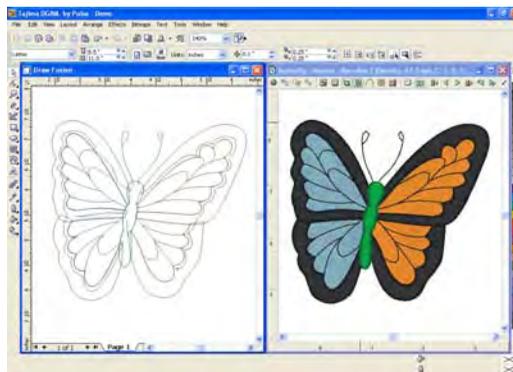
- 1 Open a new design window or open an existing design in Tajima DG16 by Pulse.



You must have only one design window open to use the Draw Fusion function.

- 2 Do one of the following:
  - ♦ Choose Tools—Draw Fusion.
  - ♦ In the Artwork toolbar, click the Activate Draw Fusion  tool.

*You see the Draw Fusion menus and toolbars. If you opened a new design window in Tajima DG16 by Pulse, a blank Draw Fusion design window will appear. If you opened an existing design in Tajima DG16 by Pulse, the design will be displayed as fill and outline shapes in the Draw Fusion design window. You can now perform most of the same functions as if CoreIDRAW® was run separately.*



- 3 From the File menu, you can perform any of the following actions:

Draw Fusion menu options	Action
Choose File—Save.	Saves the Draw Fusion file. Use the Save As dialog to select a file format and the location you want to save the file.
Choose File—Import.	Imports images into Draw Fusion. Use the Import dialog to select the location of images you want to import.

Draw Fusion menu options	Action
Choose File—Switch.	Closes Draw Fusion and switches back to Tajima DG16 by Pulse. Any changes that were done in the Draw Fusion design window will be applied to the Tajima DG16 by Pulse design window.
Choose File—Close.	Cancels all work done in Draw Fusion and returns back to Tajima DG16 by Pulse.



To display the Tajima DG16 by Pulse and Draw Fusion design windows side-by-side, choose Windows—Tile from Tajima DG16 by Pulse.

## Changing Draw Fusion Settings

Using Tajima DG16 by Pulse, you can easily change the settings related to Draw Fusion features.

When switching between Tajima DG16 by Pulse and Draw Fusion design windows (making a transaction), you can adjust how you apply edits to artwork and embroidery segments using the Draw Fusion settings dialogs. You can also access these Draw Fusion settings from the Draw Fusion property page in User Settings.

To set Draw Fusion settings, you should know how to do the following:

- Access Draw Fusion settings.
- Convert new Draw Fusion objects into artwork segments for Tajima DG16 by Pulse.
- Change transaction options.

### Step 1: Access Draw Fusion settings

- 1 To make changes to Draw Fusion settings from the Draw Fusion property page, complete the following in Tajima DG16 by Pulse:
  - ♦ On the Ribbon, select Tools tab—User Settings .
 

*You see the User Settings pages.*
  - ♦ Click the Draw Fusion property page.
  - ♦ Make appropriate changes.
- 2 To access the Draw Fusion settings dialog from the integrated design windows, do either of the following in Tajima DG16 by Pulse:
  - ♦ Choose Tools—Draw Fusion.
  - ♦ In the Artwork toolbar, click the Activate Draw Fusion  tool.

*Depending on your initial settings in the Draw Fusion property page, the Draw Fusion settings dialog may appear.*

- 3 To access the Draw Fusion settings dialog from the integrated design windows, do
- 4 either of the following in Draw Fusion:
  - ♦ Choose File—Switch.
  - ♦ From the ribbon, click .

*Depending on your initial settings in the Draw Fusion property page, the Draw Fusion settings dialog may appear.*

### Step 2: Convert new Draw Fusion objects into artwork segments

- 1 Access Draw Fusion settings.
 

*The following settings are shown within the When adding artwork from Draw Fusion area.*

- 2 To convert all new objects created in Draw Fusion to Tajima DG16 by Pulse artwork segments, select Convert everything to Artwork, if not already selected.



The following settings are only available if Convert everything to artwork is not selected from the property page. Filled shapes are shapes that are solid, rather than outline.

- 3 Select one or more of the following settings:

- ♦ From the Convert fill shapes to list, choose one of the following:
    - ♦ **Artwork.** Draw Fusion's filled shapes automatically become Artwork segments in Tajima DG16 by Pulse.
    - ♦ **Complex Fill.** Draw Fusion's filled shapes automatically become Complex Fill segments in Tajima DG16 by Pulse.
    - ♦ **Satin Path.** Auto-breakup is performed on Draw Fusion's filled shapes to improve the quality of segments during conversion. Filled shapes automatically become Satin Path segments in Tajima DG16 by Pulse.
    - ♦ **Satin Path or Complex Fill.** Draw Fusion's filled shapes automatically become Satin Path or Complex Fill segments in Tajima DG16 by Pulse. The software chooses the best option for segment type based on the vector shape.
  - ♦ From the Convert outline shapes to list, choose one of the following:
    - ♦ **Artwork.** Draw Fusion's outline shapes (shapes with only an outline and no fill color) automatically become Artwork segments in Tajima DG16 by Pulse.
    - ♦ **Run.** Draw Fusion's outline shapes (shapes with an outline but no fill color) automatically become Run segments in Tajima DG16 by Pulse.
  - ♦ From the Convert thick outline shapes to list, choose one of the following:
    - ♦ **Artwork.** Draw Fusion's outline shapes with a thick border automatically become Artwork segments in Tajima DG16 by Pulse. You must now define the thick border in Tajima DG16 by Pulse.
    - ♦ **Steil.** Draw Fusion's outline shapes with a thick border automatically become Steil segments in Tajima DG16 by Pulse. You must now define the thick border in Tajima DG16 by Pulse.
    - ♦ **Appliqué.** Draw Fusion's outline shapes with a thick border automatically become Appliqué segments in Tajima DG16 by Pulse. You must now define the thick border in Tajima DG16 by Pulse.
  - ♦ From the Treat outline as thick when thickness is more than list, select a thickness value. This thickness value determines when Draw Fusion's outline shapes are thick. To disable this setting, select Disable.
- 4 To make changes to transaction options, go to the instructions for Step 3: Change transaction options.
  - 5 To close the dialog, click OK.

### Step 3: Change transaction options

- 1 Access Draw Fusion settings.  
*The following settings are shown within the Transaction Options area.*
- 2 In the From Draw Fusion area, select one of the following:

- ♦ **Selection only.** When selected, this setting is enabled. Only the changes made to selected objects in the Draw Fusion window will be applied when switching back to the Tajima DG16 by Pulse window. When this setting is unselected, changes made to all objects in the Draw Fusion window will be applied when switching back to the Tajima DG16 by Pulse window.
  - ♦ **Re-Synchronize** (Only available when Selection Only is not selected). When selected, all of the segments in the Tajima DG16 by Pulse window will be replaced with objects from the Draw Fusion window. Segment types will change according to the settings in the *When adding artwork from Draw Fusion* area. For more information, see Step 2: Convert new Draw Fusion objects into artwork segments.
- 3 In the To Draw Fusion area, select the following:
    - ♦ **Refresh Draw Fusion.** When selected, all objects in the Draw Fusion window are removed and replaced with objects matching the segments in the Tajima DG16 by Pulse window. When this setting is unselected, no changes will be made to the Draw Fusion window.
  - 4 To have the Draw Fusion settings dialog appear each time you apply edits or switch between the Tajima DG16 by Pulse and Draw Fusion windows, select Show this during transaction. When unselected, the settings in the property page will always be applied and the Draw Fusion settings dialog no longer appear during transactions.
  - 5 To close the dialog, click OK.

## Modifying Artwork Segments

### Combining Path Segments

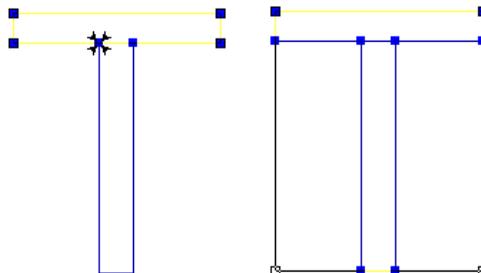
You can combine two or more segments created by the Artwork tools to form a single artwork segment. Only one of the segments can be created using the Digitizing tools; the other segment or segments must be artwork segments.

#### To combine path segments:

- 1 In the Edit toolbar, click the Select  tool.
- 2 Select the path segments you want to combine.
- 3 Do one of the following:
  - ♦ Click Combine  from the Artwork Tools toolbar.
  - ♦ Press Ctrl + C.

*The combined segments are merged into a new segment.*

The following figures show a path segment imported using the Import TrueType® tool.

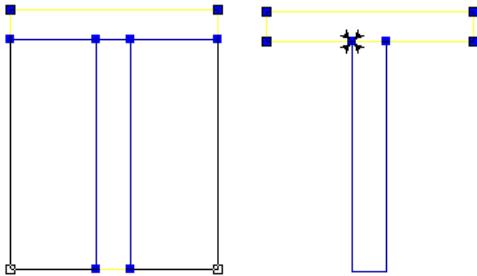


**Disjoined using the Slice tool**

**Joined using Combine**

## Separating Path Segments

The Breakup tool separates a single artwork path segment into multiple artwork path segments. Breakup does not work for segments created using the Digitizing tools.



Disjoined using the Slice tool

Disjoined using Breakup

### To separate path segments:

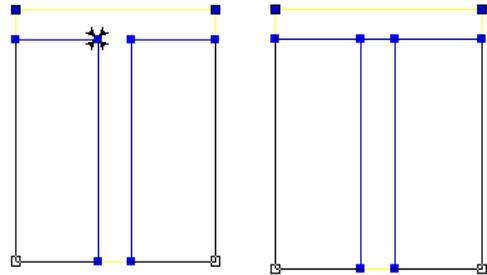
- 1 Select the path segments that are combined.  
See "Combining path segments".
- 2 Perform one of the following steps:
  - ◆ Click Breakup  from the Artwork Tools toolbar.
  - ◆ Press Ctrl+ K.

## Splitting Path Segments

The Slice  tool lets you split complex shapes into simple shapes, as well as slice non-artwork segments.

You can use Slice to prepare imported shapes such as TrueType fonts for satin lettering. For example, if you type a T, you can slice it into two pieces, one horizontal piece (the top) and one vertical piece (the stem), making it easier to modify for Satin lettering. Because the Slice tool works on a single artwork segment, make sure that the path segment is combined.

The following figures show a path segment imported using the Import TrueType® tool.

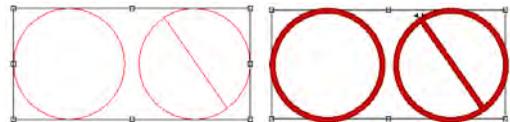


Before using the Slice tool

After using the Slice tool

You can create open or closed segments when you split paths with the Slice tool. If you want to apply a Run (Bean or Half Bean) or Steil stitch type, you may not want to close the path segment.

The figures below show open and closed path segments with a Steil stitch.



Sliced ellipse:  
Open and Closed

Applied Steil stitch:  
Open and Closed

After you slice an artwork segment, you can now press **TAB** on your keyboard to filter out the overlapping node dots. To display node dots in the design window, Show Dots must be selected on the ribbon. You will only be shown one set of node points for the selected artwork segment each time you press **TAB**. By pressing **TAB** multiple times, you will rotate through each segment and be better able to differentiate between separate segments.

## Special Notes:

- Do not confuse the Slice  tool with the Split Anchor option. The Slice tool slices between two anchor points on a path. Split Anchor converts one anchor point into two anchor points, possibly splitting a path in the process.

### To split a path segment:

- 1 Select the path segment.
- 2 In the Edit toolbar, click the Slice  tool.
- 3 To split a path segment, do one of the following steps:
  - ♦ To create an open segment, click the location on the path from where you want to slice and drag to the location where you want to end the slice.
  - ♦ To create a closed segment, hold down **SHIFT** and click the location on the path from where you want to slice and drag to the location where you want to end the slice.



You can also click outside the location of the segment and the first slice bead will snap to the closest point on the segment shape.

*Now you can apply a stitch type. For more information, see "Applying stitch types to artwork segments or path segments".*

## Shape Artwork Tools

Shape Artwork tools give you a set of powerful options for editing artwork segments. These tools can be applied whenever two or more overlapping segments are selected. You can

choose to use the Unite , Exclude ,

Intersect  or Clip  tools to edit your artwork.



For more information about the functions of the Shape Artwork tools, see the individual descriptions for each tool.

## Applying Shape Artwork

Depending on your preference, you can apply the shape Artwork tools in two ways. They can be applied directly by clicking on the appropriate button in the Artwork toolbars, or through the shortcut menu.



For all of the shape artwork tool except Unite and Intersect, the colors of the original shapes will be preserved in the resulting artwork.

When Unite and Intersect are applied, the color of the top-most segment will be applied to the final artwork.

### To apply Shape Artwork Tools from the Artwork toolbar:

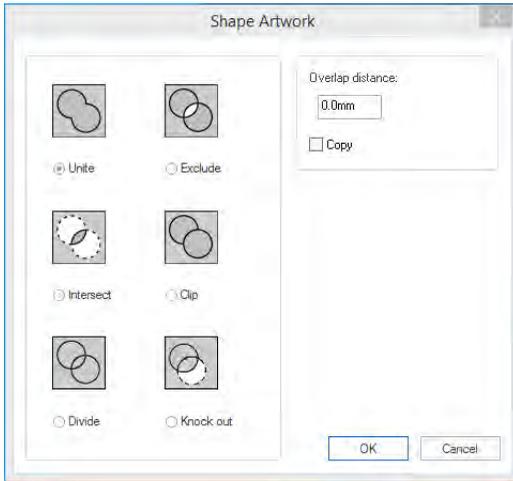
- 1 Select two or more artwork segments.
- 2 In the Artwork toolbar, click on any one of the following tools, as appropriate:
  - ♦ Unite.
  - ♦ Exclude.
  - ♦ Intersect.
  - ♦ Clip.

*You see the segments altered accordingly.*

### To apply Shape Artwork tools using the shortcut menu:

- 1 Select two or more artwork segments.
- 2 Right-click, and then choose Shape—Shape Artwork from the menu.

*You see the Shape Artwork dialog.*



- 3 To preserve your original segments and have the new segment(s) copied before the original segments in the sequence, select Copy if not already selected. If you do not select Copy, you will replace the original segments with the new segment(s).
- 4 Select one of the following shape artwork tools:
  - ◆ Unite
  - ◆ Intersect
  - ◆ Exclude
  - ◆ Clip
  - ◆ Divide
  - ◆ Knockout

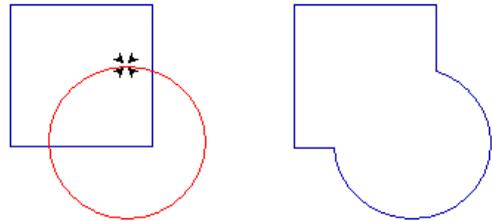
*You see the segments altered accordingly.*

The sections that follow provide some additional information to help you use the four Shape Artwork tools effectively.

## Unite Tool

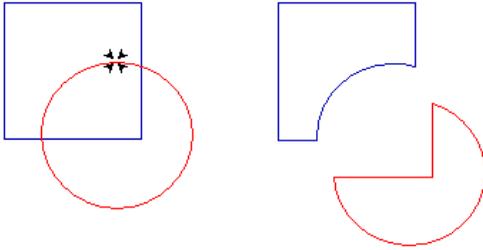
The Unite  tool merges all selected artwork into one segment. The shape of the new segment combines all of the selected segments. All overlapping areas will be removed from the new segment.

If one or more of the selected segments are overlapping and contain a hole, the holes will be united together. For example, you can use this function if you want to create a Steil or Run border around a number of overlapping segments. Instead of manually digitizing the border, you can use the Unite tool to create a new segment that will outline the selected segments.



## Exclude Tool

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

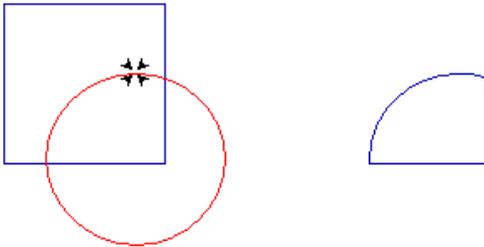


## Intersect Tool

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



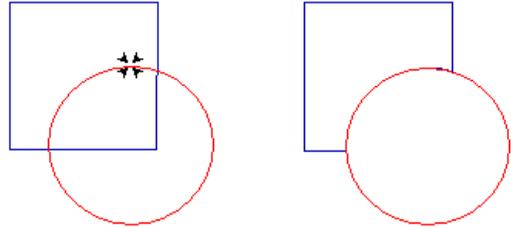
In order for the Intersect tool to work, all of the selected segments must overlap in the same area.



## Clip Tool

The selected segments remain separate after you use the Clip  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.

The Clip tool is useful if you have objects overlapping each other and you want to remove extra stitching already covered by the top layer.

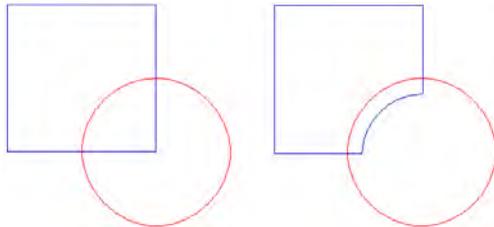


## Allowing Overlap in Shape Artwork

The Overlap setting for Shape Artwork applies exclusively to the Clip tool.

When clipping two artwork shapes, it is sometimes desirable to have the two shapes overlap along the line where they come into contact. This way, there will be some overlapping stitches generated when artwork is converted (to a fill segment, for example).

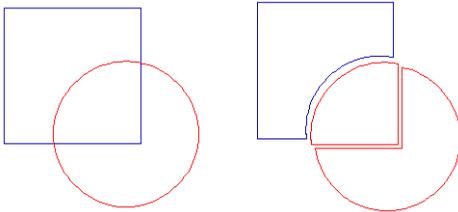
An option on the Shape Artwork dialog box allows you to retain some overlap when clipping combined shapes. Type a value into the box to set the amount of overlap that will be left between the two shapes after clipping.



*Artwork segments before clipping (left), and clipped with an overlap applied (right).*

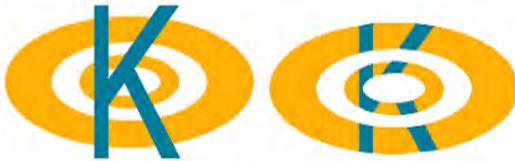
## Divide Tool

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



## Knockout Tool

Where two segments overlap, Knockout removes that part of the lower segment that is overlapped. The portion of the top segment that overlaps the lower segment is retained, and the portion that does not overlap the lower segment is removed.



## Connecting Multiple Artwork Segments

The Connect Shapes tool allows you to automatically connect multiple artwork segments together and form a smaller number of connected segments. Artwork segments can be processed in different ways using the Connect Shapes tool. You can join all selected artwork segments into a single segment. Closed segments will be skipped when connecting

shapes together. Open segments will be sequenced to minimize the distance from one path to another when segments are joined from end-to-end. During this process, a path will not connect directly to itself.

You can also select Close Shapes from the Connect Shapes dialog and create one or more closed shapes from all selected artwork segments.

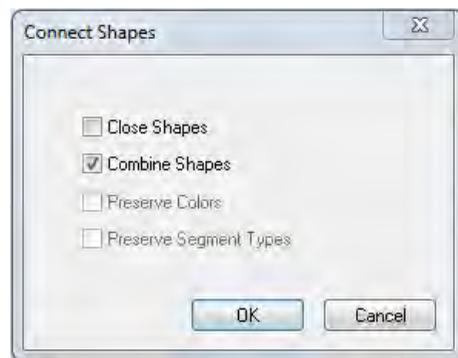


If you use the Connect Shapes tool on non-artwork segments, the segments will be converted into artwork segments.

### To connect multiple artwork segments:

- 1 Select the artwork segments you want connected together.
- 2 Do one of the following:
  - ♦ Click on the Connect Shapes  tool in the Artwork Tools toolbar.
  - ♦ Press Ctrl+Shift+O.
  - ♦ From the menu bar, choose Segment—Auto—Connect Shapes.

*You see the Connect Shapes dialog; the option to Combine Shapes is selected by default.*



- 3 Do any of the following:
  - ♦ To join open segments and skip all closed segments when connecting shapes, click OK.

- To join open segments and create a continuous closed path, check the Close Shapes box and click OK.
- To sequence the segments without combining them into a single segment, deselect the Combine Shapes option and click OK.

When the Combine Shapes box is unchecked, you will see that two other options become available:

- You can check the Preserve Colors box to have the segments retain their identity and their original color.
- If the segments you are connecting are of different stitch types, you can check the Preserve Segment Types button to maintain each as its own individual type after they have been connected.



## Removing Overlapped Artwork Segments

Tajima DG16 by Pulse makes it easier to work with imported artwork that has many overlapping vector objects. You can easily remove the underneath portion of two or more overlapping artwork segments.



The removing overlapped artwork segments feature only works for Filled Artwork segments.

### To remove overlapped artwork:

- 1 Select one or more filled artwork segments.
- 2 Right-click and select Shape—Remove Overlapped Artwork from the menu.  
*The overlapped portions of selected artwork will be removed accordingly.*

## Applying Stitch Types

### Applying a Stitch Type an Artwork or Path Segment

When you use the Artwork tools to create segments, you must apply a stitch type to the segment because artwork segments contain no stitch information. Using the Covert tool (or the context menu), you can instantly convert the selected Artwork to whatever kind of stitch type you want.

When the stitch type is applied, the Start and Stop beads are placed automatically according to the properties of the original artwork. If the locations are not ideal, you can instantly reverse their positions by right-clicking one of them and selecting “Swap start and stop beads” from the context menu.



### To apply a stitch type:

- 1 Select the artwork segment.
- 2 Do one of the following:
  - ♦ Click Convert  on the ribbon.
  - ♦ Right-click and choose “Convert Segment to” from the shortcut menu.
  - ♦ Press Ctrl+E and choose “Convert Segment to” from the shortcut menu.
- 3 Choose the stitch type you want to apply to the segment.  
*You see the segment altered accordingly.*

When converting a colored art segment to a stitch segment, the stitch segment retains the same color as the artwork segment. A color change is added if the color is different from the previous segment.



- 4 To adjust the properties of your segment, open the Selection settings pages in the Properties panel.

## Adding Multiple Stitch Types to a Segment

Once there is more than one stitch type, you can delete and resequence stitch types.



You can add a maximum of two stitch types per path segment in some levels of the software. In some levels of the software, you can also add an unlimited number of stitch types per path segment.

You can add multiple stitch types to one segment. For example, you can create a segment that is a Complex Fill with a Steil border. Placing a border around a Fill makes the Fill's edges cleaner. By combining Complex Fill and Steil in the same segment, you save time because you do not have to create two separate segments.

### To add a stitch type:

- 1 Select the segment.
- 2 Press Ctrl+E on your keyboard and choose Properties from the menu.  
*You see the Edit Stitch Types dialog.*
- 3 Click Add Stitch Type.  
*You see the Choose Stitch Type list.*
- 4 Choose a stitch type from the list and click OK.
- 5 If you want to adjust the properties for the new stitch type, do the following:
  - ◆ Click Properties.  
*You see the Segment Settings dialog.*
  - ◆ Adjust settings in the properties pages.
  - ◆ Click OK to close the Segment Settings dialog.
- 6 Click Done.

## Deleting Stitch types from segments

Once there is more than one stitch type, you can delete and resequence stitch types.



You can add a maximum of two stitch types per path segment in some levels of the software. In some levels of the software, you can add an unlimited number of stitch types per path segment.

If you have a segment with multiple stitch types assigned to it, you can remove stitch types that you no longer need.

### To delete a stitch type:

- 1 Select the segment.
- 2 Press Ctrl+E, and choose Properties from the menu.  
*You see Edit Stitch Types dialog.*
- 3 Select the stitch type you want to delete.
- 4 Click Delete.
- 5 Click Done.

## Resequencing Stitch types on the same segment

Once there is more than one stitch type, you can delete and resequence stitch types.



You can add a maximum of two stitch types per path segment in some levels of the software. In some levels of the software, you can add an unlimited number of stitch types per path segment.

If you have a segment with multiple stitch types assigned to it, you can change the order of stitch types. The order determines which stitch type sews first. For example, for a segment with both Complex Fill and Steil, you would want the Complex Fill to sew before the Steil border.

**To resequence a stitch type:**

- 1 Select the segment.
- 2 Press Ctrl+E on your keyboard and choose Properties from the menu.  
*You see the Edit Stitch Types dialog box.*
- 3 Select the stitch type you want to resequence.
- 4 Click Move Earlier or Move Later to resequence the stitch type.
- 5 Click Done.



# CHAPTER 17

## Working with Images

Tajima DG16 by Pulse has all the tools you need to work with images. Use these tools to manipulate scanned photographs or image files and create impressive designs. Once you convert these images to embroidery, you can alter your designs to suit your needs.

*Topics covered in this chapter:*

- Creating embroidery from scanned photographs by using the Stitch Image wizard.
- Inserting objects and load images for digitizing.
- How to alter scanned images.
- Building image and HTML design catalogues.

## Scanning Images

You can scan images and then load them into your system, or you can use the Acquire command to scan the images directly into Tajima DG16 by Pulse. Acquire lets you use a scanner without exiting the program.

### To scan an image:

#### 1 Choose Image—Acquire.

*You see the Select Source dialog. You see a list of the scanners you have connected to your computer.*



You can also select a default image acquire method rather than selecting it every time you want to scan images directly into the software. Choose Tools—Configuration—Acquire.

#### 2 From the list, select the scanner you want to use and click Select.

*You see the scanner's dialog.*

*The dialog box that appears depends on the scanner you are using and some scanners have more options than other scanners.*

#### 3 Adjust the settings you want for the image.

#### 4 Scan the image.

*Once you have scanned the image, you see the scanned image in the design window.*

## Creating Embroidery from a Scanned Photograph

Use the Stitch Image Wizard to convert a photograph to embroidery. You scan the photograph and then load the image into Tajima DG16 by Pulse. When you scan photographs, the scanner's software generates bitmap images. The Stitch Image Wizard uses Run, Three-Ply or Bean, and

Satin (with variable widths) stitch types to create the embroidery. Because an image has different tones, the Stitch Image Wizard applies Run stitches to light tones, Three-Ply or Bean stitches to medium tones, and Satin stitches to dark tones.

### To create embroidery from a scanned photograph:



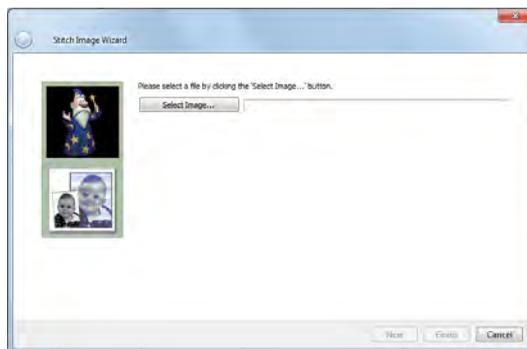
Try different settings to get the best results for the image that you are using. The image must be sharp and high contrast. It also needs to look visually appealing in black and white.

#### 1 Do one of the following.

- ♦ Click the New  tool on the File
- ♦ Select File—New from the menu bar.
- ♦ You see the New Document dialog.

#### 2 In the dialog, click the Stitch Image Icon.

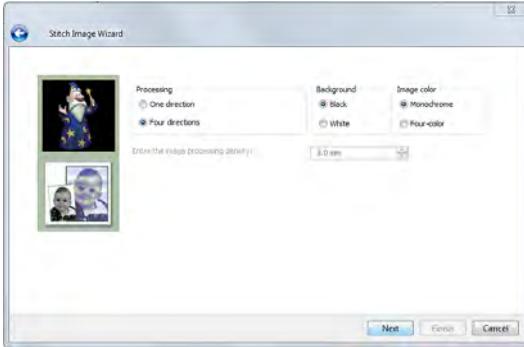
*You see the Stitch Image Wizard window.*



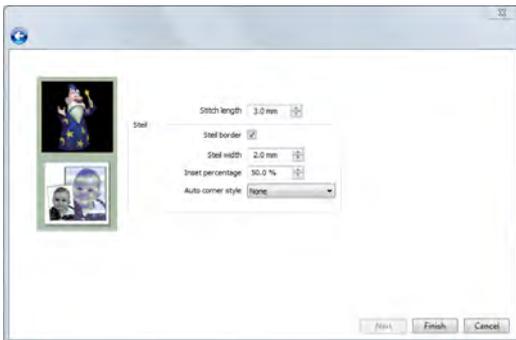
#### 3 Click Select to select the scanned image.

#### 4 Select an image file and click Next.

*You see a new Stitch Image Wizard window.*



- 5 In the Processing area, choose the method to apply – “One direction” or “Four directions.”
- 6 If “One direction” processing is selected, enter a value that the Wizard will use for the image processing density.  
*The default density is 30.0 pts.*
- 7 In the Background area, select one of the following colors for the background:
  - ♦ Black
  - ♦ White
- 8 In the Image Color area, select one of the following image types:
  - ♦ Monochrome
  - ♦ Four-color.
- 9 Click Next.  
*You see the *Stitch Image Wizard—Setting Parameters* window.*



10 In the Stitch length box, enter the stitch length that you want to apply to the design.  
*The default is 3.00mm.*

11 To apply a Steil border, complete the following:

- ♦ Check the Steil Border check box.  
*The other Steil settings will be activated.*
- ♦ In the Steil Width box, enter the desired steil width.
- ♦ In the Inset Percentage box, enter the desired inset percentage.
- ♦ In the Auto Corner Style list, select one of the following steil corner styles:
  - ♦ Standard
  - ♦ Auto
  - ♦ Custom.

*For more information on the properties of steil corners, see “Adjusting your Segment Settings—Steil Corner Properties.”*

12 Click Finish.

*The image is converted and it opens in the design window.*

## Loading Images for Digitizing

You can open an image file to use as a backdrop for on-screen digitizing or for auto tracing. You can preview and open most standard file types: choose from over 20 file formats. When you open an image, it opens in its original size.

Tajima DG16 by Pulse also allows you to save loaded images in \*.PXF files or have \*.PXF files linked to loaded images stored separately on your hard drive. For more information, see "Setting user preferences".

**To open an image:**

- 1 Select the New  tool to open a new design window.  
*You see a new design window.*
- 2 Choose Image—Load to load an image.  
*You see the Open Image dialog.*
- 3 In the Look in list, select the folder where the file you want to load is located.
- 4 In the Files of Type box, select the image format you want to open in the selected folder.
- 5 Select the file you want to open.

You can also access artwork designs from Librarian. To access databases on the Librarian server, click Librarian.

If you are not logged into Librarian, the login dialog will appear. You will need to log into Librarian and open a Librarian database.



Then the Load Artwork dialog will appear and you can search for an artwork design to open.

If you are already logged into Librarian, you will not see the login and Open Database dialogs. For more information on opening an artwork design from Librarian, see "Opening an artwork design as an image".

- 6 Click Open.  
*You see the image in the design workspace.*
- 7 Choose Image—Backdrop Select.  
*Your cursor changes to a black triangle and plus sign.*
- 8 Right-click the image.  
*You see a shortcut menu.*
- 9 Choose one of the following settings from the menu to edit your image:
  - ◆ Choose Delete to delete the image. For more information, see "Removing Scanned Images".
  - ◆ Choose Rotate to rotate the image. Hold down the left mouse button while

turning the mouse to rotate the image. For more information about rotating the image, see "Rotating Scanned Images".

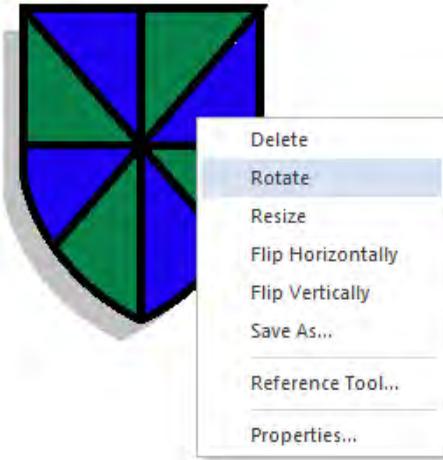
- ◆ Choose Resize to resize the image. Move your mouse to resize your image and left-click at the desired size. For more information about resizing the image, see "Resizing Scanned Images".
- ◆ Choose Flip Horizontally to flip the image horizontally.
- ◆ Choose Flip Vertically to flip the image vertically.
- ◆ Choose Save As and make necessary adjustments in the Save As dialog to save the image.
- ◆ Choose Reference Tool to rotate or resize your image in the Reference Points dialog, using specific measurements. For more information about rotating and resizing images in the Reference Points dialog, see "Rotating Scanned Images" and "Resizing Scanned Images".
- ◆ Choose Properties to view the properties of your image.

**Rotating Scanned Images**

Once you have imported an image, you may want to change its rotation. You can rotate the image easily using Rotate Image in the Backdrop Select shortcut menu.

**To rotate images:**

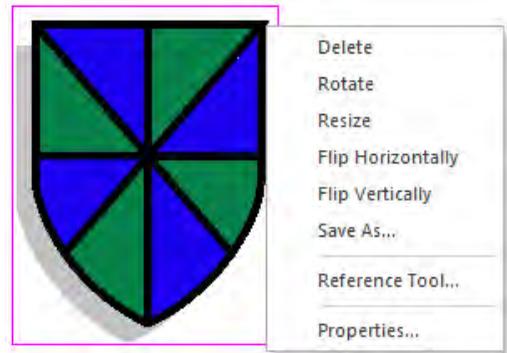
- 1 Load your image. See "Loading Images for Digitizing."
- 2 Choose Image—Backdrop Select.  
*Your cursor changes to a black triangle and plus sign.*
- 3 Right-click the image.  
*You see a shortcut menu.*



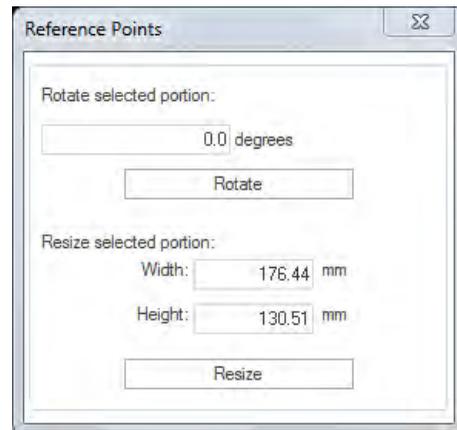
- 4 Choose Rotate from the menu.
- 5 To rotate the image manually, complete the following:
  - ◆ Left-click the image and hold down the left mouse button.  
*You see your cursor turn into a curved arrow.*
  - ◆ Rotate the image by turning your mouse in the direction you want the image to turn.
  - ◆ Release your mouse button in the desired location for the image.  
*You see the image altered accordingly.*
- 6 To rotate the image using specific degree settings, complete the following:
  - ◆ Right-click the image.  
*You see the Enter degree of the rotation dialog.*
  - ◆ In the Degree box, enter the number of degrees you want the image rotated.
  - ◆ Select the direction of the rotation: Clockwise or Counter Clockwise.
  - ◆ Click OK.  
*You see the image altered accordingly.*

**To rotate images using the Reference Points dialog:**

- 1 Load your image. See "Loading Images for Digitizing."
- 2 Choose Image—Backdrop Select.  
*Your cursor changes to a black triangle and plus sign.*
- 3 Right-click the image.  
*You see a shortcut menu.*



- 4 Choose Reference Tool from the menu.  
*You see the Reference Points dialog.*



- 5 In the Rotate selected portion box, enter the number of degrees you want to rotate your design.

- 6 Click Rotate to rotate the image.  
*The image is rotated. You can keep trying different degrees until you find the correct one.*
- 7 Click the X in the top right hand corner to close the Reference Points dialog.

## Resizing Scanned Images

You can resize an image that you load to use as a backdrop for digitizing. The image file can be a drawing you scanned, or a clipart bitmap image that you want to digitize.

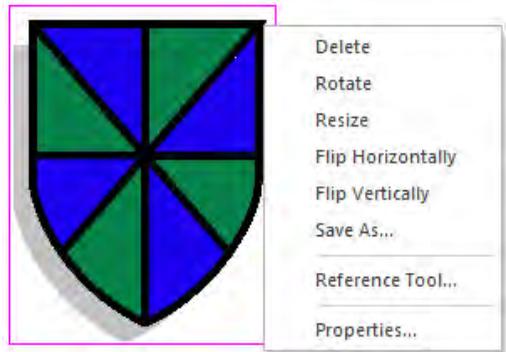
### To resize images:

- 1 Load your image. See "Loading Images for Digitizing."
- 2 Choose Image—Backdrop Select.  
*Your cursor changes to a black triangle and plus sign.*
- 3 Right-click the image.  
*You see a shortcut menu.*
- 4 Choose Resize from the menu.
- 5 To resize the image manually, complete the following:
  - ♦ Resize the image by moving your mouse across the design workspace accordingly.  
*You see a flexible box around your image and your cursor moves this box in order to resize your image.*
  - ♦ Left-click the image at the appropriate size.  
*You see the image altered accordingly.*
- 6 To resize the image using specific resize percentage settings, complete the following:
  - ♦ Right-click the image.  
*You see the Enter resize percentage dialog.*
  - ♦ In the Resize box, enter the percentage you want the image resized.

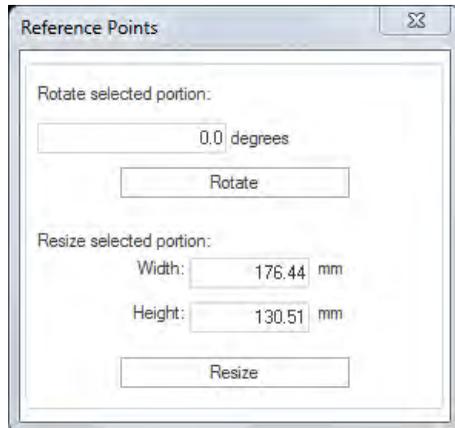
- ♦ Click OK.  
*You see the image altered accordingly.*

### To resize an image using the Reference Points dialog:

- 1 Load your image.  
See "Loading Images for Digitizing."
- 2 Choose Image—Backdrop Select.  
*Your cursor changes to a black triangle and plus sign.*
- 3 Right-click the image.  
*You see a shortcut menu.*



- 4 Choose Reference Tool from the menu.  
*You see the Reference Points dialog.*



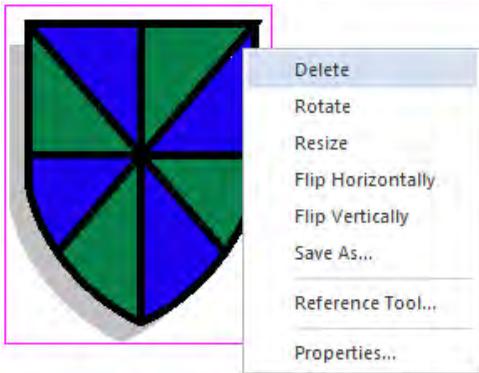
- 5 In the Width box, enter the width you want for your image.
- 6 In the Height box, enter the height you want for your image.
- 7 Click Resize to resize the image.  
*The image is resized. You can keep trying different size combinations until you find the correct one.*
- 8 Click the X in the top right hand corner to close the Reference Points dialog.

## Removing Scanned Images

You can remove a loaded image from the design workspace if you loaded the wrong image by mistake.

### To remove a scanned image:

- 1 Choose Image—Backdrop Select.  
*Your cursor changes to a black triangle and plus sign.*
- 2 Right-click the image.  
*You see a shortcut menu.*



- 3 Choose Delete from the menu to delete the image.

## Combining Images

When you load two or more images into the design workspace, you can now combine these images together. Use the Combine Images feature to merge all loaded images into one image.

You can also use the Backdrop Select tool to save the layout of image files for future reference. For more information on saving images with the Backdrop Select tool, see "Loading Images for Digitizing".

### To combine image files:

- 1 Load two or more images.  
For more information, see "Loading Images for Digitizing" and "Scanning Images".
- 2 Choose Image—Combine Images.  
*Your images will now be combined into one image.*

## Hiding and Showing Images

You can hide the current image on the design workspace. The Hide command is ideal if you are using a complex image and you want to see what you have punched on top of the scanned or imported image. Because the image is hidden, you can view the Outline segments.



Press I on your keyboard to hide the image.

### To hide an image:

- 1 Choose Image—Hide.  
*When an image is hidden, a check mark appears next to the Hide menu item.*
- 2 Choose Image—Hide again to restore the image.

## Lightening Images

You can lighten the image you have loaded. The Lighten command is especially useful when you are having a hard time viewing Outline segments because the image is dark.

### To make a design lighter:

- 1 Choose Image—Lighten.
- 2 Choose Image—Lighten again to restore the original image.

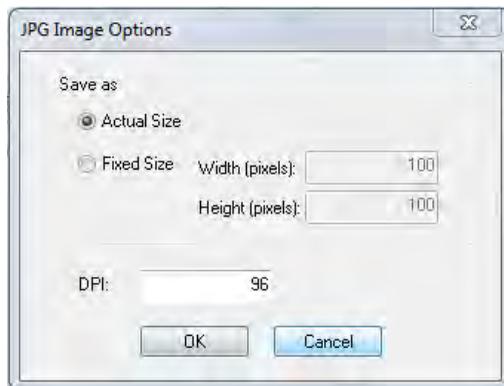
## Exporting Designs as Images and Worksheets

### Exporting Designs as Images

Tajima DG16 by Pulse allows you to export embroidery designs as \*.JPG or \*.PNG images. You can save these images onto your hard drive or a disk.

### To export a design as an image:

- 1 Open the design file.
- 2 Choose File—Export—Image File...  
*You see the Save As dialog.*
- 3 In the Save in list, browse to the location you want to save your file. You can save design files to your hard drive or a disk.
- 4 In the File Name field, enter the file name for the design you want exported as an image.
- 5 In the Save as type field, choose either \*.JPG or \*.PNG.
- 6 To adjust the properties of the saved image, click the Options button in the Save As dialog.  
*You see the Image Options dialog.*



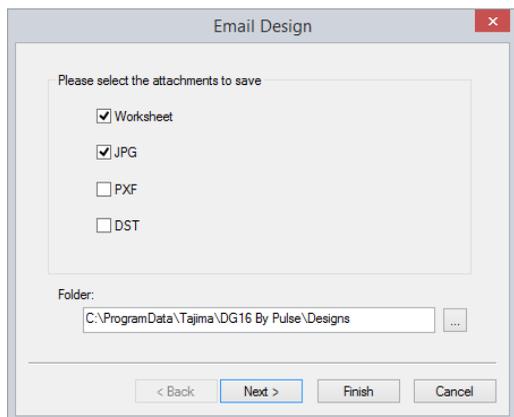
- 7 In the Save As area, choose one of the following image sizes:
  - ♦ Actual Size. Select to have the image saved using your design's original dimensions.
  - ♦ Fixed Size. Select to have the image saved using fixed design dimensions. Once this option is selected, the Width and Height boxes become active. Enter appropriate dimensions in each box.
  - ♦ DPI. Enter a DPI value for the saved image.
  - ♦ To save your image options, click OK.
- 8 Click Save.

## Saving Images and Worksheets for e-mail

The Email Design tool is a way to save design worksheets, image files, and/or designs for distribution. The designated files will all be exported to a folder you choose, and can then be attached to an email.

### To email designs as images and worksheets:

- 1 Create or open a design file.
- 2 Choose File—Export—Email Design.  
*You see the Email Design dialog.*



By default, the files will be exported to C:\Program Files\tajima\DG 16 By Pulse \Designs. If desired, you can change this directory by typing a new path into the "Folder" field.

- 3 Select one or more of the following options for exporting your design:
  - ◆ Worksheet
  - ◆ JPG
  - ◆ PXF
  - ◆ DST



Depending on the options selected, you may or may not see all of the dialogs referred to in the following steps. These dialogs will appear in order when all of the above options are selected.

- 4 Click Next.  
*You see the Print Work Sheet Options dialog.*
- 5 In the Worksheet Size area, select one of the following sizes for your worksheet:
  - ◆ A4.
  - ◆ Custom. Once this option is selected, the Width and Height boxes become active. Enter appropriate dimensions in each box for your worksheet.
  - ◆ Letter Size (8.5"x11").

- 6 In the DPI box, enter a DPI value. The higher the DPI value, the more detailed the worksheet image will be.
- 7 To adjust information displayed in the design worksheet, click Print Settings. For more information, see "Setting up design worksheets".
- 8 Click Next to continue.  
*You see the JPG Image Options dialog.*
- 9 In the Save As area, choose one of the following image sizes:
  - ◆ Actual Size. Select to have the image saved using your design's original dimensions.
  - ◆ Fixed Size. Select to have the image saved using fixed design dimensions. Once this option is selected, the Width and Height boxes become active. Enter appropriate dimensions in each box.
  - ◆ DPI. Enter a DPI value for the saved image.
- 10 Click Finish.  
*The image, worksheet, and/or design files will be exported to the designated folder.*

## Building Image and HTML Design Catalogues

Tajima DG16 by Pulse allows you to easily create \*.JPG image files from your embroidery designs. These images can be used in other web sites, documents or spreadsheets. The Build Images function uses an advanced 3D stitch simulator technology to generate realistic images in customizable sizes. Build Images supports \*.PXF design format.

You can also generate design catalogue HTML pages while generating images. These HTML pages can be used to display your designs on a web site or can be loaded into various applications for printing and editing. You must

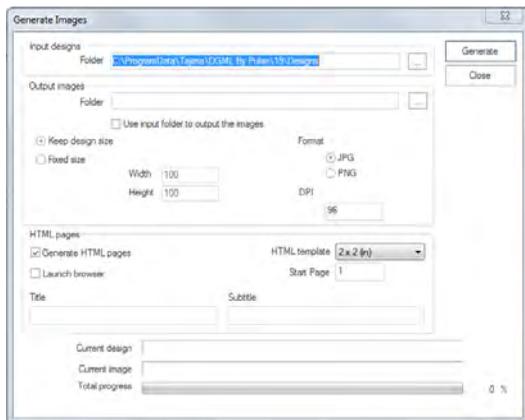
specify the HTML template you want to use as templates can be created in one of two units: millimeters or inches. Each design on the HTML template will include its design name, dimensions, stitch count and thread chart information.

To begin building images and HTML catalogues in Tajima DG16 by Pulse, you should know how to do the following:

- Input your designs
- Output your images
- Generate HTML catalogues

### Step 1: To input your designs

- 1 Choose Tools—Build Images.  
*You see the Generate Images dialog.*



- 2 In the Input Designs area, click  to browse to the folder containing the designs you want to generate images from.

### Step 2: To output your images

- 1 In the Output Images area, click  to browse to the folder you want your generated images and HTML files to be placed.

- 2 To output your generated images and HTML files into the same folder as your input designs, select Use input folder to output the images.
- 3 To have each image file generated match the actual size of the design, select Keep design size.
- 4 To control the maximum dimensions for each design image in the catalogue or web page, select Fit Size and complete the following:



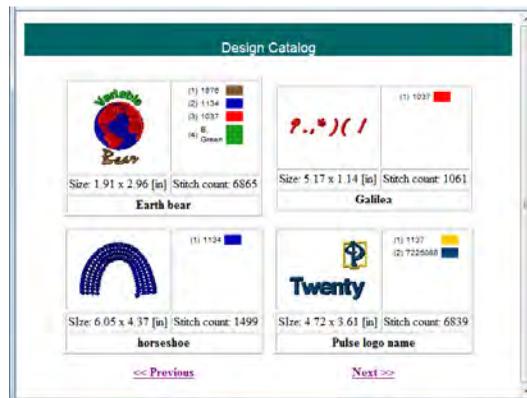
The size of the image matches the original stitch file unless it exceeds the maximum width and height.

- ♦ In the Width box, enter the maximum width for each design image.
  - ♦ In the Height box, enter the maximum height for each design image.
- 5 Select one of the following formats to export your design:
    - ♦ JPG
    - ♦ PNG
  - 6 In the DPI box, enter a DPI (dots per inch) value for the image. The higher the DPI value, the more detailed the design's image will be.
  - 7 To generate images and an HTML catalogue at the same time, go to the instructions for *Step 3: To generate HTML Catalogues* now.
  - 8 To begin generating only the images from your designs, click Generate.  
*The progress bars at the bottom of the Generate Images dialog will display the generation status. Once done, the files will appear in the specified Output images folder.*
  - 9 To close the Generate Images dialog, click Cancel.

### Step 3: To generate HTML Catalogues

- 1 To generate HTML pages that will display your images in a catalogue, select Generate HTML pages.
- 2 In the HTML template list, select the template you want to use. The template you select determines how many designs will be displayed horizontally and vertically on each page.
- 3 To launch your computer's default web browser and open the first page of your generated HTML Catalogue, select Launch browser.
- 4 In the Start Page box, enter the page number you want HTML pages to start at. For example, if you enter a value of 5 your first HTML page will start at 5 and the next page will be 6.
- 5 To customize your HTML catalog, enter title and subtitle names in the respective boxes.
- 6 To begin generating images and a HTML catalogue, click Generate.

*The progress bars at the bottom of the Generate Images dialog will display the generation status. Once done, the files will appear in the specified Output images folder. If you selected Launch browser, your design catalog will automatically launch.*



- 7 To close the Generate Images dialog, click Cancel.





# CHAPTER 18

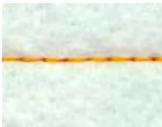
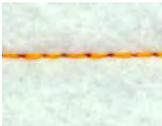
## Using Digitizing Tools

You can create beautiful designs using Tajima DG16's powerful digitizing tools. These tools will help you create custom embroidery.

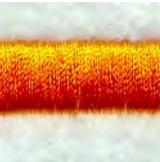
*Topics covered in this chapter:*

- Common embroidery stitch types.
- Creating Manual and Run stitches.
- Creating and adjusting Satin and Fill stitches.
- Branching satin segments.
- Creating Wave stitches.
- Creating and modifying Fur Stitch segments.
- Toggling between tools automatically.

# Common Embroidery Stitch Types

Stitch type	Description	Sample
Run or Walk	Thread is laid in a single line between successive needle penetrations. A Run or Walk is a basic straight stitch that is placed along the lines at a set length or interval.	
Two-ply	Another type of Run stitch is the double-running or Two-ply stitch. A Two-ply stitch goes over the stitches twice, at the same stitch length, ending where you started the stitch. Two-ply stitches are used for detail work.	
Bean	A Bean or Three-ply stitch uses three stitches for each Run stitch. A Bean stitch goes over each stitch three times before moving to the next stitch resulting in a heavier Run stitch. Bean stitches are used for borders or detail work.	

Thread is laid across a fabric in a Zig-zag pattern as the needle penetrates the fabric first on one side, then on the other side, without penetrating the fabric in between.



Satin (Column)

Satin stitches give your design a shiny look and are used for many purposes; for example, small lettering or borders.

Fill stitches are used for large lettering or large areas because the stitches penetrate the material as they go from one side of an area to the other. If you use Satin stitches for a large area, the stitches will be loose, the machine may skip, and the needle or thread may break because the stitches do not penetrate the fabric like Fill stitches.



Fills (Tatami)

Also known as Geflect or Fill Ceeding. Complex Fill stitches fill shapes with parallel stitches. The puncher does not have to punch any stitches within the shapes, because a Complex Fill stitch determines how the stitches are punched.



Complex Fill

## Digitizing tips

DG16 by Pulse's digitizing tools let you select different stitch types to use for digitizing. You have the choice of digitizing with or without loading a scanned image or clipart to use as artwork.

Even with all of the technological advances in machines and software in the embroidery industry, the puncher's skill is still the key to excellent embroidery. Good embroidery art is drawn to suit embroidery, not simply copied from printing or pictures. Therefore, when you punch a design, you can improve what did not as look good sketched or in print. In addition, good designs not only have visual appeal, but also run well on the embroidery machine.

### Artwork

- Determine the size of your finished design and visualize what you want the final design to look like.
- Determine the proper stitch types by making a copy of your artwork the same size as the finished design.
- Make the artwork as crisp and clean as possible.
- Mark your drawings with hash marks or colors if you think it will help you follow the artwork. Artwork should contain information such as stitch type, pull-compensation, stitch colors, and overlap. It should indicate the stitch movement and sequence.
- Use consistent marks when you record information found on the original artwork.
- Produce detailed artwork because the artwork may require updates, or the disk that you saved your design on may be destroyed.
- Keep track of information such as the date, size, design name, digitized moves, styles, file name and description.

## Embroidery

- Determine the fabric that the design will be sewn on. Fabrics such as crossgrain and corduroy need special consideration when digitizing. Caps also need special consideration.
- Determine how the design will run. Know the sewing path and what is sewn on top of what. Start with the background.
- Choose your thread colors and sequence.
- Try to place Run stitches between regions so that the Run is covered by stitches that come later.
- If a digitizing tool is currently selected, you can press **Tab** on your keyboard to toggle between the Run  tool and the enabled digitizing tool. Also, you can digitize a run segment and press **Tab** again to toggle back to the previously used digitizing tool.

### Other Considerations

- Are there special customer specifications?
- Does the artwork look finished?
- Does an outline need to be drawn around the Fill?
- Does the width of the columns need to be wider?
- Is the lettering minimum size or larger?

### A successful digitizer

- Allows for a "learning curve". You may need to continue having difficult designs digitized by an outside source—this is normal.
- Spends time practicing.
- Has realistic expectations.
- Views designs as basic shapes.

## Snap to Artwork

Snap to artwork helps when you are digitizing by tracing over artwork segments. When you are digitizing manually, by placing individual points, snap to Artwork will automatically place these points right on top of a nearby artwork outline.

Snap to Artwork will work with any of the digitizing tools; it will also apply to the Pen, Ellipse, and Rectangle Artwork tools.

### To use Snap to Artwork:

- 1 Select a digitizing tool.
- 2 Do one of the following.
  - ◆ Press the F4 key.
  - ◆ From the menu bar, select View—Grid—Snap to Artwork.
- 3 Click in the workspace to enter the points of your design.



To turn off Snap to Artwork, press F4 again.

## Snap to Guidelines

Similarly to Snap to Artwork, Snap to Guidelines forces anchor points to be automatically placed along a nearby guideline. Snap to Guidelines will apply with any digitizing tool; it also works with the Pen, Ellipse, and Rectangle Artwork tools.

### To use Snap to Guideline:

- 1 Select a digitizing tool.
- 2 Do one of the following.
  - ◆ Press Shift + F4.
  - ◆ From the menu bar, select View—Grid—Snap to Guidelines.

- 3 Click in the workspace to enter the points of your design.



To turn off Snap to Guidelines, press Shift+F4 again.

## Using Smart Join Mode

The Smart Join mode automatically updates the start and stop locations (the green ● and red ▲ beads, respectively) of consecutive segments in the sewing sequence, such that the closest point connections are made. This minimizes the length of any connections that must be made between adjacent segments.

If required, you can quickly swap the positions of the start and stop beads by right-clicking on one of them, and selecting “Swap start and stop beads” from the menu that appears. For more about changing the positions of the start and stop beads manually, see “Working with Beads—Changing the Location of Beads.”



There are two situations to which Smart Join mode can be applied:

- When digitizing new segments. In this case, the start/stop points will automatically be placed at the points of closest connection, as you create them.
- Retroactively, to existing segments. In this case, the start/stop points will be moved to the points of closest connection, when you invoke the Smart Join mode.

### To use Smart Join Mode when digitizing:

- 1 Do one of the following:
  - ◆ Select Segment—Smart Join mode
  - ◆ Press Ctrl + J on your keyboard.
- 2 Digitize your segments as usual.

- The entry and exit points will line up to the points of closest connection, as you add new segments.

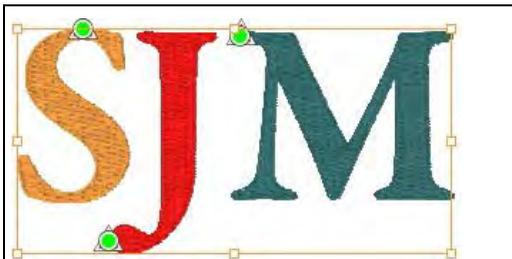


Smart Join Mode can be turned off at any time by going to Segment—Smart Join Mode or pressing Ctrl+J again.

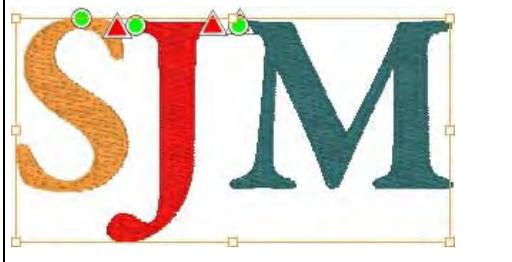
### To apply Smart Join Mode to existing segments:

- Using either the Select tool or the Lasso Select tool, select the segments
- Do one of the following:
  - Right-click the segments and choose Auto—Smart Join Mode from the context menu
  - Press Ctrl+Shift+J on the keyboard.

*You see that the start and stop points are adjusted to be closest to each other.*



Above, a series of satin segments, digitized individually; below, after selecting all three and applying Smart Join Mode.



## Converting to other Segment Types

### One-click conversion

You can convert of outline segment instantly to a different segment type using the one-click conversion feature. To apply this feature, select a segment and click the toolbar icon of the stitch type that you want to apply – the segment will be immediately converted to that stitch type.

This function can be used on any kind of outline segment, and will convert to practically any kind of stitch segment, including Run, Complex Fill, Chenille, Sequin, etc.



Note that this conversion function cannot be used to convert to (or from) any kind of Text segment.

### To apply one-click conversion:

- Select the outline segment with the Select  tool.
- Click on the toolbar icon of the segment type that you wish to convert to.



One-click conversion the does not work with the fly-out toolbars, only the conventional toolbars. To turn off fly-out toolbars, go to the Tools tab and select User Settings—Customize—Environment, and uncheck the “Use flyout toolbars” box.

*The segment will be converted to the new segment type.*

## Digitizing Tool Behavior Settings

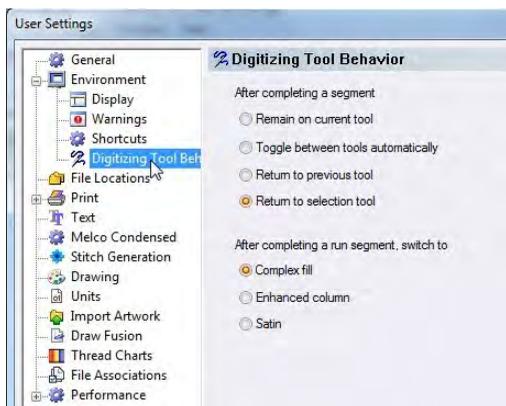
There is an option in the User Settings dialog which allows you to modify the what will happen when you finish digitizing a segment. This streamlines the digitizing process, by switching the active tool to the desired tool without requiring you to select it.

You can set this “digitizing tool behavior” to best suit the way you like to digitize designs. The options are:

- Remain on current tool.
- Toggle between tools automatically (see following section for details).
- Return to previous tool.
- Return to selection tool.

### To change the digitizing tool behavior:

- 1 On the Ribbon, select the Tools tab—User Settings , to access this setting.  
*You see the User Settings property pages.*
- 2 Click on in the Environment page list in the left column.  
*You see the property page.*
- 3 Select the “Digitizing Tool behavior” page.  
*You see the following User Settings page.*



- 4 Select the digitizing tool behavior by clicking on the appropriate radio button.
- 5 Press OK to apply the change.

## Toggle between tools automatically

When “Toggle between tools automatically”, the tool-switching behavior is different from that which applies in the other three options. In this case, the tool that the software switches to will depend both on the current tool being used, and the tool that was in use immediately before it. When you complete a segment, the software will automatically switch to whichever tool is the logical choice for the next tool to use.

### An example of how “Toggle between tools” operates

If “Toggle between tools automatically” is set, the digitizing the tool will ‘toggle’ (switch) between the Complex fill and Run tools. Say, for example, that you are digitizing a design using the Complex Fill tool. After you complete the Fill segment, the tool will change to Run (without you having to select “Run” from the toolbars. Then, after you complete the Run segment, it will switch to Complex fill again, and so on.

If you are currently using a digitizing tool, you can also toggle between the digitizing tool and the Run tool manually by pressing Tab. Pressing Tab while digitizing overrides the “Return to Previous tool”, “Remain on current tool”, and “Return to selection tool”.



## The “Tool after Run” Setting

The behavior of the tool switching is different if the current tool is the Run tool. In this case there are two possibilities – depending on which kind of tool was in use immediately prior to the Run tool being selected.

- If the previous tool was one of the normal digitizing tools (e.g. Satin, Complex fill, etc.), then the tool will switch back to the digitizing tool after the run is completed.
- In cases where the previous tool is *not* one of these tools (e.g. the Select tool, one of the Artwork tools, a Text tool, etc.), it will not return to that tool when the run is completed. Instead, it will automatically toggle to one of the following:
  - Complex fill
  - Enhanced Column
  - Satin Column

To select which tool is selected after the Run segment, open the User Settings dialog. On the Digitizing Tool Behavior page, check the desired tool on the “After Completing Run” list.

## Exceptions to the “Toggle Between Tools” behavior

Note the following exceptions: some of the digitizing tools do not toggle automatically, even when “Toggle between tools automatically” is set to On. For these tools, the tool will always stay the same when a segment is completed:

- Cross-stitch
- Star
- Radial fill
- Manual Sequin
- All Text Tools
- All Chenille Tools
- Laser Cut
- Laser Fill

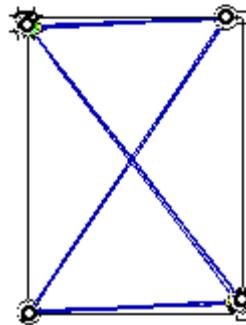
# Manual and Run Stitches

## Creating Custom Lock Stitches

You can create custom lock stitches or use the predefined lock stitches that Tajima DG16 by Pulse provides. To create a custom lock stitch, you digitize the lock stitch and save it as a Programmed Fill Pattern file (PFL). Then you can select the lock stitch and apply it to a segment.

### To create custom lock stitches:

- 1 Select the New  tool.  
*You see a new design window.*
  - 2 Digitize the lock stitch using the Manual tool  or the Run tool .
- For example, create a double bow-tie.*



- 3 Press **ENTER** to complete the segment.
- 4 In the Stitch Edit toolbar, click the Stitch  tool.  
Select  tool.
- 5 Select the stitches that form the lock stitch.
- 6 Right-click and choose Save as Lock stitch from the shortcut menu.  
*You see the Save Programmed Fill Pattern dialog.*

- 7 Enter a name for your lock stitch. Make sure you save the file in the Tajima\DG16 by Pulse\LockStitch folder.
- 8 Click Save.  
*You can now use your custom lock stitch the next time you are digitizing.*
- 9 To close your design window, choose File—Close.
- 10 Open a new or existing design file.
- 11 Select the segment you want to add your lock stitch to.
- 12 To apply your lock stitch to the selected segment, click the Commands property page and select the lock stitch you created from the Lock stitch-Start and Lock stitch-End lists. Click OK.  
*The custom lock stitch will be applied to the segment.*

## Creating Bean stitches

Use the Run  tool to create Bean stitches. A Bean stitch is also known as a Three Ply stitch and is a running stitch where the machine sews over each stitch three times before it moves to the next stitch. The result is a heavy running stitch.

### To create Bean stitches:

- 1 In the Digitizing toolbar, click the Run  tool.  
*The pointer becomes a cross hair.*
- 2 In the Run Style list, select Bean.
- 3 Do one of the following:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
  - ♦ To create a closed segment, click the design workspace to place the anchor point in your design and press **O** to close the segment.
- 4 To complete the segment, press **ENTER**.

## Creating Half Bean Stitches

Use the Run tool to create Half Bean stitches. A Half Bean is a running stitch that creates a slightly different effect than the standard Bean stitch. The Half Bean stitching does not have the same penetration point for each stitch like the Bean stitching does. The stitch length of the stitches is varied.

### To create Half Bean stitches:

- 1 In the Digitizing toolbar, click the Run  tool.  
*The pointer becomes a cross hair.*
- 2 In the Run Style list on in the Properties Panel, select Half Bean.
- 3 Do one of the following to punch a segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
  - ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press **O** to close the segment.
- 4 Press **ENTER** to complete the segment.

## Creating Manual and Jump Stitches

Use the Manual tool to create manual stitches. A Manual stitch is similar to a Run stitch except that for every two points placed, one stitch is formed. When you use the Manual tool, a manual stitch is dropped at the anchor points. You can also use the Manual tool to place jump stitches, which is useful for boring and sequin designs. A Jump stitch is the movement of the pantograph without needle penetration, commonly used to get from one point in a design to another.

### To create Manual stitches:

- 1 In the Digitizing toolbar, click the Manual  tool.  
*The pointer becomes a cross.*
- 2 To create an open segment, complete the following:
  - ♦ Click the design workspace to place the anchor points in your design (manual stitches).
  - ♦ Press **Ctrl** while clicking the mouse to place Jump stitches in your design.
- 3 To create a closed segment, complete the following:
  - ♦ Click the design workspace to place the anchor points in your design (manual stitches).
  - ♦ Press **Ctrl** on your keyboard while clicking the mouse to place Jump stitches in your design.
  - ♦ Press **O** to close the segment.
- 4 Press **ENTER** to complete the segment.

## Creating Run Stitches

Use the Run tool to create 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.

### To create Run stitches:

- 1 In the Digitizing toolbar, click the Run  tool.  
*The pointer becomes a cross.*
- 2 In the Run Style list, select a style for your Run segment.  
*The Run Style list includes the Needle Up option. Needle Up is a machine movement that lifts the needle so the needle does not penetrate the fabric.*

- 3 Do one of the following to punch a Run segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
  - ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press **O** on your keyboard to close the segment.
- 4 Press **ENTER** to complete the segment.

## Creating Two-Ply Stitches

Use the Run tool to create Two-Ply stitches. A Two-Ply stitch is similar to a Run stitch because it is a basic straight stitch that is placed along a line at a set interval. The machine sews over the stitches twice, at the same stitch length, running to the end and back to the start.

### To create Two-Ply stitches:

- 1 In the Digitizing toolbar, click the Run  tool.  
*The pointer becomes a cross hair.*
- 2 In the Run Style list, select Two-ply.
- 3 Do one of the following steps to punch a segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
  - ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press **O** to close the segment.

# Manual Sequin

## Creating a Manual Sequin Segment

If you have a machine with sequin capability, you can place sequins in designs by using the Manual Sequin tool.

The tool works by toggling back and forth between two modes - placing manual stitches (just like using the Manual stitch tool) and dropping sequins. The tool starts out in the stitch mode, and you toggle into the sequin mode by pressing the spacebar. After each sequin is placed, the tool automatically switches back to manual mode, so that the tack-down stitches may be placed.

### To place sequins with the Manual Sequin tool:

- 1 In the Digitizing toolbar, click the Manual Sequin  tool.
- 2 Click the design workspace to place the anchor points (manual stitches).
- 3 To change into drop sequin mode, press and release the **Tab** key.  
*The cursor changes to an outline of a sequin.*
- 4 Move the sequin outline to the desired position and left-click.  
*The sequin is placed on the design, and the cursor changes back to a cross, showing that you are again in manual stitch mode.*

If your software includes the Color Change Sequin option, you are able to change between the two different colors available while placing sequins in the segment.

This is done using shortcuts on the keyboard; type **Alt+1** to select sequin 1, and type **Alt+2** to select sequin 2.

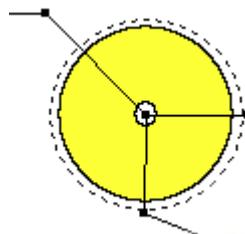


- 5 Use the manual mode to place tack-down stitches between the edge of the sequin and the center.

When you place tack-down stitches, you must take the needle diameter into account, to prevent it from hitting your sequin. Therefore, all your needle penetration points need to be at least  $\frac{1}{2}$  of the needle width away from the edge of the sequins.



To assist with placing these outside stitch penetrations, the Manual Sequin tool includes a Sequin Border setting, which draws a dashed line at a user-determined diameter around the center of the sequin. This border is to help you place the tack-down stitches so that they do not interfere with the sequin.



*Detail of a manual sequin segment with 0.30 in. sequin and a 0.33 in. sequin border setting; the sequin border therefore displays an 'extra' space around the sequin edge.*

- 6 Proceed to the next location where you wish to place a sequin, and repeat steps 2-5 until all sequins are placed.
- 7 Press **ENTER** to complete the segment.

## Adjusting Manual Sequin Settings

The settings for Manual Sequin can be set in the Segment Settings pages. To open these pages, select View—Toolbars and Docking Windows—Properties, or press **Ctrl+E** and choose Properties from the context menu.

## Manual Sequin Settings:

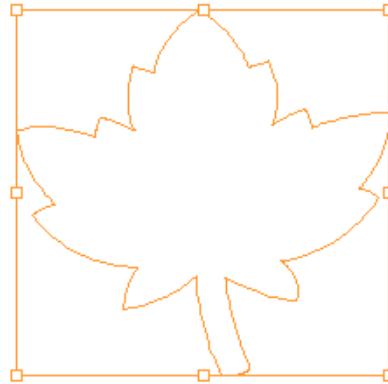
- **Size:** Diameter of the chosen sequin shape (for non-circular sequin shapes, based on the longest transect through the center of the sequin).
- **Sequin Shape:** Can be chosen from a drop-down list of saved sequin shapes.
- **Hole Size:** Diameter of the hole in the middle of the sequin.
- **Border Size:** The diameter of the dashed border guideline around the sequin shape.
- **Run Stitch Length:** The length of the stitches for a run stitch segment in the Manual Sequin segment (see *Run Threshold*).
- **Run Threshold:** This is a length measurement, defining the smallest distance between punched points for which the Manual Sequin tool will insert a Run stitch into the Manual Sequin segment. Below this length, the tool will retain the manual stitches, just as you place them; above the threshold, a Run stitch will be automatically inserted in place of the manual stitches.
- **Sequin Color:** The color is based on a choice from the colors in the thread charts. See “Working with thread charts”.
- **Count:** Displays the number of sequins placed in the currently-selected segment.

## Creating a Shape Echo Segment

The Shape Echo tool is used to fill the space between two outlines with spiral fill stitches. The spiral fill pattern is generated such that it automatically follows the contours of the inner outline.

## To create an Shape Echo Segment:

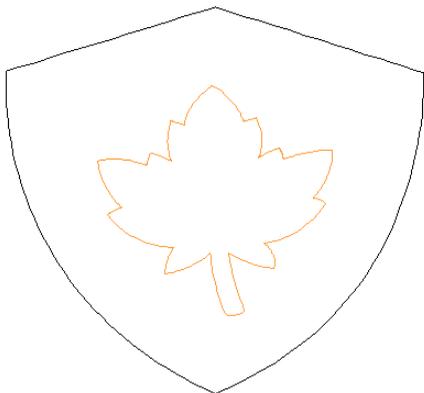
- 1 Open a new design file.
- 2 Create an outline shape (artwork) to serve as the basis for the Shape Echo stitching shape; the stitches will follow this shape's contour.



- 3 On the Specialized Digitizing toolbar, select the Shape Echo  tool.
- 4 With the Shape Echo tool active, click in the design workspace to place points to define the outer boundary of the Shape Echo segment.

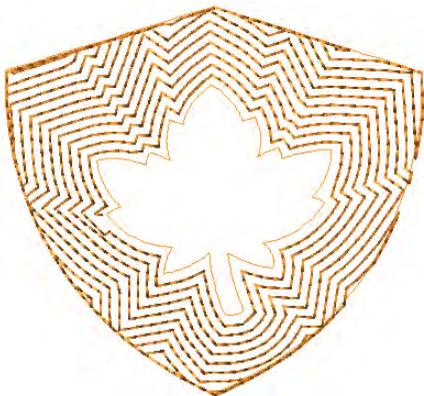


You can also create an artwork outline, and then use the Convert  tool to convert this outline to Shape Echo.



- 5 Using the Select tool, select both shapes (or open the Sequence view and select them from the list of segments).
- 6 Combine the two shapes by doing one of the following:
  - ◆ On the Artwork Tools toolbar, select the Combine  tool.
  - ◆ Press Ctrl + L on the keyboard.

*The area between the two shapes will now be filled with run stitches in a spiral pattern.*



*You can now adjust the spiral run in the properties panel, changing (for example) the spacing, spacing profile, and run stitch style.*

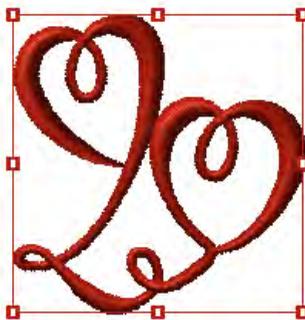
## Creating a Boundary Segment

The Create Boundary dialog allows you to add a boundary around a selected artwork or embroidery segment. The boundary that is created will exactly follow the outer outline of the selection, but will be slightly displaced outwards.

The boundary can be generated as an artwork path or as embroidery - a run, steil, or cross-stitch segment. There is also an option to change the offset distance from the original selection.

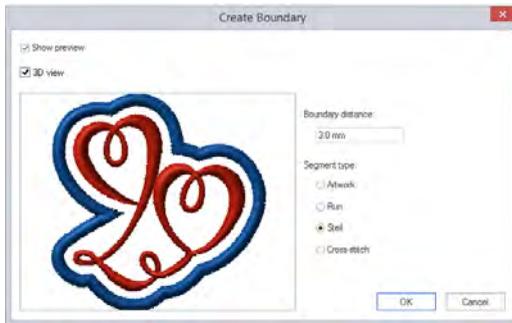
### To use the Create Boundary tool:

- 1 Select an artwork or outline embroidery segment.



- 2 Right-click to open the Context menu.
- 3 On the menu, select Auto—Create Boundary...

*The Create Boundary dialog opens.*



- 4 (Options) Check the Show preview box to display the boundary within the preview window; check the 3D box to view the stitches in 3D.
- 5 Set the boundary offset, in mm, in the Boundary Distance field.
- 6 Click one of the radio buttons to select the desired boundary type:
  - ◆ Artwork
  - ◆ Run
  - ◆ Steil
  - ◆ Cross-stitch)
- 7 Click OK.

*The dialog closes, and the boundary segment appears (with the original selection) in the design workspace.*



## Brush Tool

The Brush tool is a digitizing tool that was designed especially to create embroidery that simulate the appearance of hand-written calligraphy.

The Brush tool creates segments that are like steil segments; that is, they consist of a single outline with zig-zag stitches crossing it. However, there are a number of settings that are unique to the Brush segment, and these are what give this segment type the appearance of calligraphy.

For example, a brush segment can be set to taper at either or both ends, and the width of the path can be set to vary along its length, to give the appearance of having been painted with a nib pen.

### To create a brush segment:

- 1 In the Specialized digitizing toolbar, click the Brush  tool.

*The pointer becomes a cross hair*
- 2 Click the design workspace to place the anchor points in your design.
- 3 Press **ENTER** to complete the segment.

*The Brush segment stitches will be generated.*
- 4 Adjust the segment settings In the properties panel to give the segment the desired degree of taper and width variation.

*For more information see “Changing Segment Settings—Brush Segment Settings.”*

## Satin and Fill Stitches

### Converting a Steil Segment to a Satin Path

You can convert Steil segments to Satin Path segments to take advantage of the angle lines that are applied to the corners so that you can adjust the stitch direction and take advantage of the Custom Cornering commands to fix any problematic corners.

#### To convert Steil segments to Satin Path segments:

- 1 Select the Steil segment.
- 2 Do one of the following:
  - ♦ Click Convert  on the ribbon and Steil to Satin Path from the shortcut menu.
  - ♦ Press = on your keyboard and choose Segments from the shortcut menu.
- 3 Adjust the angle lines or use the Custom Cornering feature to modify the corners.

### Creating Satin or Fill Segments with Holes

Use the Complex Fill tool to create Satin or Fill segments with holes. You can choose from a variety of patterns. The "holes" represent the areas that will have no stitches.

#### To create Satin or Fill stitches with holes:

- 1 In the Digitizing toolbar, click the Complex Fill  tool.

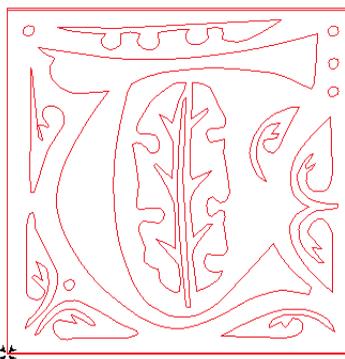
*The pointer becomes a cross hair.*

- 2 In the Pattern list, select a Satin type or a Fill pattern.



To adjust settings, click the appropriate tab on the Properties Panel and make the setting changes.

- 3 Left-click to punch the segment.
- 4 Press O to complete the outside of the segment.
- 5 Continue clicking inside the segment to punch where you want the holes. Press O again to complete the inside of the segment.



- 6 Press **ENTER**.
- 7 To set the entry and exit points and angle line, see the following steps:
  - ♦ When the pointer becomes a green arrow with a white bead, click the location you want the entry point (green bead).
  - ♦ When the pointer becomes a red arrow with a white bead, click the location you want the exit point (red triangle bead).
  - ♦ When the pointer becomes a small arrow with a bead, click and drag from left to right to place an angle line in your segment.

*You see the Complex Fill segment with holes created.*



## Creating Satin or Fill Stitches with the Column Tool

Use the Column tool to create Satin or Fill stitches. The Column tool allows you to punch a Satin or Fill segment using traditional digitizing entry, placing anchor points from side to side (point-counter-point). You can also enter both straight and curved points in the same segment. In some levels of the software, you can create branched segments with the Column tool.

### To create Satin or Fill stitches:

- 1 In the Digitizing toolbar, click the Column



tool.

*The pointer becomes a cross hair.*

- 2 In the Pattern list, select a pattern type.
- 3 On the design workspace, click with your left mouse button to punch a straight column segment.

*For example, you can punch a simple column by placing only four points. Place one point. Move your mouse and place the second point to the right of the first point. Then, move your mouse and place the third point to the above of the first point. Finally,*

*move your mouse and place the fourth point to the right of the third point.*

- 4 To create a slightly curved Column, press **ENTER**.

*The cursor becomes a cross with an arc.*

- 5 Punch as you would a column stitch.
- 6 Right-click to complete the segment.

## Creating Stitches with the Complex Fill Tool

Use the Complex Fill tool to create Satin or Fill stitches. You select a Satin type or Fill pattern from the Pattern list, or on the Fills property page.

### To create a Complex Fill segment:

- 1 In the Digitizing toolbar, select the Complex Fill  tool.

*The pointer becomes a cross.*

- 2 In the Pattern list, select a Satin type or Fill pattern.
- 3 On the design workspace, click with your left mouse button to punch the segment.
- 4 Press **O** to close the segment.
- 5 Press **ENTER** to complete the segment.
- 6 To set the start and stop points and the angle line for your segment, do the following steps:

- ♦ When the pointer becomes a green arrow, click where you want to set the start point. You see a green bead where you clicked, and the pointer becomes a red arrow.
- ♦ When the pointer becomes a red arrow, click where you want to set the stop point. You see a red triangle bead

where you clicked, and the pointer becomes a small arrow with a bead.



After you close the segment, you can right-click to quickly set the entry and exit points and angle line by accepting the system defaults.

- ◆ When the pointer becomes a small arrow with a bead, click and drag from the left of the segment to the right of the segment to place an angle line in your segment.  
You cannot add additional angle lines to a Complex Fill segment. When you create a Complex Fill segment, you must add only one angle line.

## Creating Enhanced Column Segments

The Enhanced Column tool lets you punch a Satin or Fill segment using traditional digitizing entry, placing anchor points from side to side. You can also enter both straight and curved points in the same segment. In some levels of the software, you can create branched segments with the Enhanced Column tool.

### To create Satin or Fill stitches:

- 1 In the Digitizing toolbar, click the Enhanced Column  tool.  
*The pointer becomes a cross.*
- 2 In the Pattern list, select a Satin type or Fill pattern.
- 3 On the design workspace, click with your left mouse button to create a straight column segment.  
When you place straight points, a square appears around the point.

*The column's width is displayed in the status line.*

- 4 On the design workspace, hold down **CTRL** to create a curved column.  
*When you place curved points, a circle appears around the point. The column's width is displayed in the status line.*
- 5 Press **ENTER** to complete the segment.

### Tip

- If you want to align the next point that you enter with the previous point, hold down shift. Pressing shift on your keyboard restricts the points entered to 15 degree increments.

## Creating a Satin Path Segment

Use Satin Path to create a segment that fills an area with Satin and Fill stitches. Until you add an angle line, Satin Path segments are similar to artwork segments without stitch information.

If you are having difficulty digitizing the segment using Bezier curves, see "Bezier curves introduction".



When you place angle lines on a Satin Path segment, the start bead is placed at the start of the first angle line and the stop bead is placed at the end of the second angle line.

### To create a Satin Path segment:

- 1 In the Digitizing toolbar, click the Satin Path  tool.  
*The pointer becomes a cross hair.*
- 2 Do one of the following to punch a Satin Path segment:
  - ◆ To create an open segment, click the design workspace to place the anchor points in your design.
  - ◆ To create a closed segment, click the design workspace to place the anchor

points in your design and press **O** on your keyboard to close the segment.

- 3 Press ENTER to complete the segment.

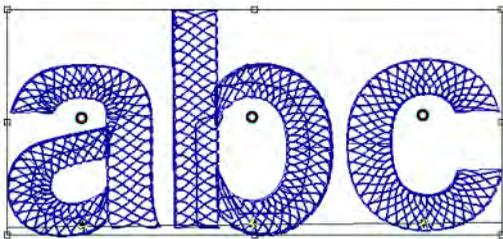


To add angle lines, see "Adding angle lines to segments".

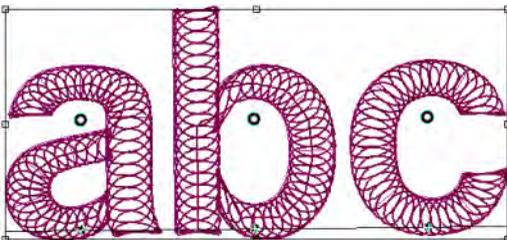
## Applying Satin Swirl Effects to Satin Path Segments

You can now create a swirl effect with Satin Path segments. You can create a Dual Swirl or Swirl effect to lettering or Satin segments.

For more information on changing Satin swirl settings, see "Adjusting Satin Swirl segment settings".



Dual Swirl effect



Swirl effect

### To apply satin swirl effects:

- 1 Create your lettering, select an existing lettering or Satin segment.
- 2 Press Ctrl+E and choose Properties from the menu.

*You see the Segment Settings pages.*

- 3 Click the Satin property page.

- 4 In the Fill Pattern Type list, select one of the following pattern types:
  - ♦ Dual Swirl
  - ♦ Swirl

- 5 Click OK.

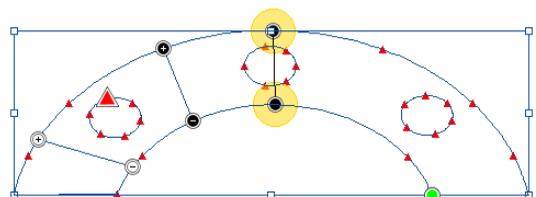
*You see the lettering or Satin segment altered accordingly.*

## Creating Complex Satin Segments

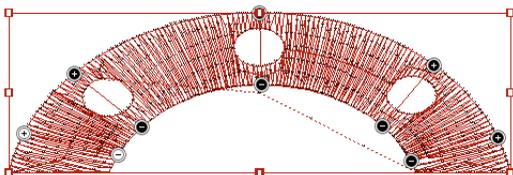
Complex Satin is digitizing tool on that creates segments that have the properties similar to those of a complex Fill segment, but also can also include multiple angle lines, like a satin column. This is allows the orientation of the stitch generation to better follow the curve of the segment's outline. Just as in a regular satin column, the angle lines are added in by the digitizer after the outline is set down.

### To digitize Complex Satin segment:

- 1 On the Standard Digitizing toolbar, select the Complex Satin  tool.
- 2 Click in the workspace to place points in the desired shape, just as you would for a Complex fill path.
- 3 Right-click to complete the outline.  
*The cursor becomes a arrowhead with a black bead.*
- 4 Click and drag from the from one side of the shape to the other to place angle lines in the segment.



- 5 When all required angle lines are in place, right-click again.  
*The cursor changes to an arrowhead with a yellow bead.*
- 6 Click and drag to add slice lines to the segment, as required.
- 7 Right-click again to complete the segment.  
*The stitches are generated.*



## Creating Fill Stitches with the Star Tool

Use the Star tool to create a circular or oval segment with stitches sewn from one side of the circle to the other. The sewn segment has stitches that do not lie flat, but curve to form a slight bump. Star segments can be used to create eyes in an animal design or the jewels in a crown.

### To create a Star segment:

- 1 In the Digitizing toolbar, click the Star  tool.  
*The pointer becomes a cross hair.*
- 2 On the design workspace, do one of the following steps:
  - ♦ To draw an oval, click and drag to form the oval.
  - ♦ To draw an oval with the centre point as reference, hold down **CTRL** and click and drag to form the oval.
  - ♦ To draw a circle, hold down **SHIFT** and click and drag to form the circle.

- ♦ To draw a circle with the centre point as reference, hold down **SHIFT+CTRL** and click and drag to form the circle.

## Creating Satin Stitches with the Auto Satin Tool

Use the Auto Satin tool to automate the process of creating Satin segments.

### To use the Auto Satin tool:

- 1 Select two artwork segments.



One of the selected artwork segments must be contained in the other.

- 2 Right-click, or press **Ctrl+E** on your keyboard.  
*A context menu will appear.*
- 3 Choose Auto—Auto Satin.  
*You see the selected artwork segments converted into satin segments.*

## Creating Steil Stitches

Use the Steil tool to create Steil stitches. A Steil stitch is a constant width Satin stitch that generates a stitch at an equal distance from the anchor points placed. This small Satin stitch is commonly used for borders or detail. If you are having difficulty digitizing the segment using Bezier curves, see "Bezier curves introduction".

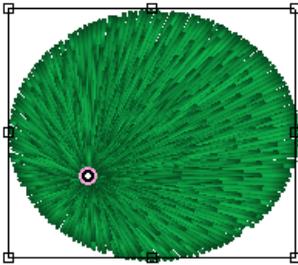
### To create Steil stitches:

- 1 In the Digitizing toolbar, click the Steil  tool.  
*The pointer becomes a cross hair.*
- 2 Do one of the following to punch a Steil segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.

- ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press **O** to close the segment.
- 3 Press **ENTER** to complete the segment.

## Creating Stitches with the Radial Fill Tool

The Radial Fill tool allows you to create a segment with stitches sewn from the inside towards the outside. The center of the radial fill segment can be moved manually to create an interesting effect.



You can also convert an existing segment to Radial Fill segment from the shortcut menu.

### To create Radial Fill stitches:

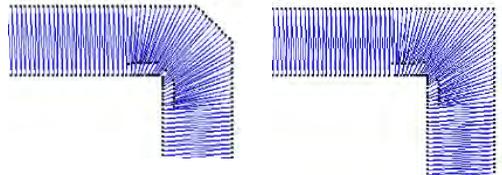
- 1 In the Digitizing toolbar, click the Radial Fill  tool.  
*The pointer becomes a cross.*
- 2 In the Pattern list, select a Satin type or Fill pattern.
- 3 On the design workspace, click with your left mouse button to punch the segment.
- 4 Press **O** to close the segment.
- 5 Press **ENTER** to complete the segment.  
*You see your segment with stitches.*
- 6 To change the position of the Start/Stop point of the fill segment, click on the green start bead and drag it.

- 7 To change the center point of the radial stitch segment, move the mouse pointer over the center bead until it changes to an arrowhead . Click and drag to change the position of the center, and release.

## Adjusting Satin and Fill Stitches

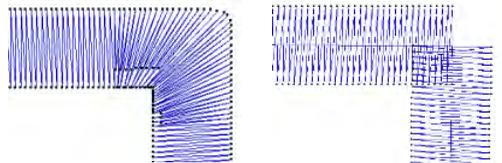
### Applying a Shape to Sharp-cornered Steil Stitches

You can apply a corner shape to Steil stitches. The shapes you can select include Bevel, Miter, Round and h.



Bevel

Mitered



Rounded

Hand sewn

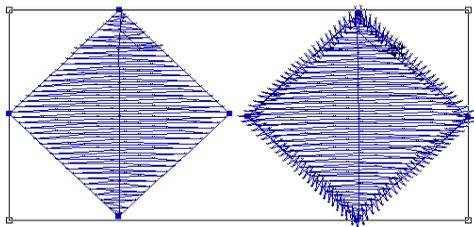
### To use Corner Shape:

- 1 Select the Steil segment.
- 2 In the Properties Panel, click the Steil tab to display the Steil settings.
- 3 Under Steil corners, select the Corner Shape field.

- From the drop-down list, choose a corner shape: Bevel, Miter, Round, or Hand Sewn.  
*You see the steil segment altered accordingly.*

## Adding a Steil Border to Complex Fill Segments

You can add a Steil border around a Fill segment to define the Fill from other areas of the design.



*Complex Fill segment and Complex Fill segment with border*

### To add a Steil border:

- Select the Complex Fill segment.
- Press Shift+B to create the steil border.  
*The steil border appears around the Complex fill segment.*
- To adjust the settings of the Steil border (for example, width, inset, or corner style) select the Steil  tab on the Properties panel.  
*For more information, see Steil Properties.*

## Custom Corners Styles for Satin or Steil Stitches

Traditionally, it's been a challenge for punchers to find a way to punch corner stitches. You can use the custom cornering commands to handle difficult corners.

Use the custom corner setting to modify the corner style of steil or satin segments.

Corner type	What it does	What it looks like
Auto-turn	Like Standard, but the corner stitches will not turn until they are close to the corner. You define how close you want the corner stitches.	
Mitered	Joins the corner stitches like a picture frame; ideal for corners that have a sharp angle. Use Mitered for corner angles from 60 to 130 degrees.	
Capped	Overlaps stitches that are at a very sharp angle (30-45 degrees.) Capped works well on spiky shapes; avoid using Capped for average corners, as it may not produce the desired result.	
Hand-Sewn	Generates corner stitches that look like they have been sewn by hand or sewing machine. Used mainly for appliqués.	
Lapped	Stitches will maintain their respective angles as they approach the corner, but will overlap completely.	



You must be working on a sharp corner angle such as a V shape for the custom cornering feature to work.

## Converting Corner Styles at Angle Line

You can use the angle line settings to change the type of cornering that will be applied to a shape by converting the angle line at a given corner. This gives you full control over the cornering style for any corner in the satin segment.

### To apply Custom Corners to a Satin path:

- 1 Select the Satin segment.
- 2 From the Path Edit toolbar, select the Angle Lines  tool.
- 3 Add an angle line to the corner of the segment you want to change (if one is not already present.)  
For more information, see "Using Paths—Adding angle lines to segments".
- 4 Place the pointer over one of the beads of the angle line in the corner you want to change.
- 5 Right-click and choose "Convert to..." one of the list of custom corner types (Auto-turn, Mitered, Capped, Hand-sewn, or Lapped) on the shortcut menu.
- 6 Press G to re-generate the stitches.  
*The corner stitches will now have the select style.*

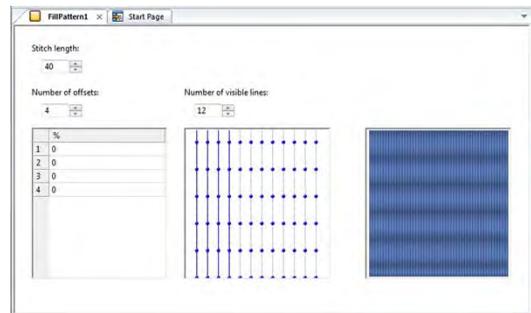
## Creating Standard Fill Patterns

The Standard Patterns dialog lets you visualize and manipulate the offsets used to create Standard Fill Patterns. You can name new Standard Fill patterns, delete existing Standard Fill patterns and set the stitch length for the Fill patterns. The offsets used for the new Standard Fill patterns are also displayed and can be modified.

A 3-D representation of the Fill pattern is displayed in the Standard Patterns dialog. Blue beads represent stitch penetration points. These beads can be moved by clicking and dragging, allowing you to change the pattern. The Number of Visible lines setting controls how many lines are displayed in the 3-D view.

### To create a Standard Fill Pattern:

- 1 Choose Tools—Manage—Fill Patterns...  
*You see the Fill Patterns dialog*
- 2 On the Fill Patterns dialog, click New.  
*A new tab opens in the workspace, with a "blank" default pattern in it.*



- 3 In the Stitch Length box, enter the length of the stitches (pts) you want for your pattern.
- 4 In the Number of Offsets box, enter the number of offsets you want for your pattern.  
*You can also adjust the offsets by dragging the pattern's beads in the Preview box on the right hand side of the dialog box.*
- 5 In the Percentage boxes, enter the offset percentages you want for your pattern.  
*The lower right hand corner of the window shows a 3-D rendering of the Standard Fill Pattern.*
- 6 In the Number of Visible Lines box, enter the number of lines of the pattern you want displayed in your 3-D view box.

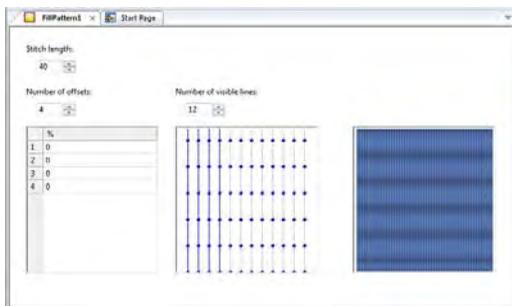
- 7 Click Save.  
*You see the Save Pattern dialog*
- 8 In the Save Pattern dialog list, enter a name for your new pattern, and click OK.  
*The new pattern will now appear in the list of existing patterns and you can apply it to your designs.*

## Editing Standard Fill Patterns

You can edit or delete existing Fill patterns. The offsets used for the new Fill patterns are also displayed and can be modified. The dialog also shows a 3-D rendering of the Fill pattern. All of the windows are updated reflecting any changes to the offsets.

### To edit a Standard Fill Pattern:

- 1 From the Menu bar, choose Tools—Manage—Fill Patterns...  
*You see the Fill Patterns dialog.*
- 2 In the Pattern name list, choose the pattern you want to edit and click Open.  
*The selected pattern opens in the workspace, under a new tab.*



- 3 In the Stitch Length box, enter the length of the stitches (pts) you want for your pattern.
- 4 In the Number of Offsets box, enter the number of offsets you want for your pattern.

- 5 In the percentage boxes, enter the offset percentages you want for your pattern or click and drag the beads in the preview window.
- 6 Click Save to save your changes.  
*Your changes take effect immediately so you can now apply this pattern to your designs.*

## Changing the Angle Lines in Complex Fill Segments

You can change the angle setting to alter the stitch direction of a Complex Fill segment. Instead of dragging the angle line beads to adjust the angle lines, you can right-click a bead and select an angle setting from the shortcut menu.

### To change the angle setting:

- 1 Select the Complex Fill segment.
- 2 Move the mouse pointer over one of the angle line beads in the angle line you want to change.
- 3 When the pointer becomes a small triangle, right-click.  
*You see a shortcut menu.*
- 4 Choose the angle setting you want from the menu.

The different angle settings range from Set Angle to 0 to Set Angle to 315 degrees.  
*Once selected, the angle line of the fill snaps to the angle that you selected.*

## Complex Fill Modifiers

In certain levels of the software, you have the ability to include areas of modified fill in a complex fill segment. Do this using the Complex Fill Modifier tool, found on the Advanced Digitizing toolbar.

The Complex fill modifier is digitized within the borders of an existing Complex fill segment, just like a regular Complex fill segment.

In the modified area, you can change the settings to a different type of fill (for example, a Standard fill segment can have a modifier with a Carved tile fill), or can also create areas which have the same fill type, but just change one of more of the Fill properties for a distinct appearance.

A Programmed fill may be used as Complex fill modifier. However, it should only be used in conjunction with Programmed fill segments. This is because the density of the Modifier is of necessity going to be the same as the original Complex fill, and normally Standard/Carved tile fill densities are higher than is appropriate for Programmed fill.



### To add a Complex fill modifier to a Complex fill segment:

- 1 Open a design with a complex fill in it, or create a new segment.
- 2 From the Specialized Digitizing toolbar select the Complex Modifier tool.
- 3 In the Properties Panel, select the type of Complex Modifier you want to apply: Standard, Carved tile, or Programmed fill. Adjust any other settings for the chosen fill type.

*Which settings will be active will depend on the fill type chosen. For more information, see the appropriate sections in the "Changing Segment settings" chapter*

- 4 Within the boundaries of the complex fill segment, click to place points in the desired shape of the Modifier.



Alternatively, create an outline using one of the Artwork tools (e.g. the Pen tool or the Autotrace tool), and then use the Convert tool to change it into a Complex fill modifier segment.

- 5 Press O to close the outline of Complex fill modifier.
- 6 Using the select tool, select the original Complex fill segment, and press G to regenerate stitches.  
*The modified area will now be visible in the Complex fill segment.*
- 7 To re-adjust settings of the Complex fill modifier (if required) select it again; you will then be able to see the Modifier settings in the Properties panel.

## Connecting Column Stitches

You can connect column stitches, also known as Satin stitches using Connect mode.

Digitizing tools that create column stitches include the Column and Enhanced Column tools. You need to connect column stitches as you digitize long irregular column segments. The position of segment connections depend on whether the column changes width, sewing direction and order, stitch angle, or form (straight column to curved column).

### To connect segments:

- 1 After you digitize a segment, place the pointer over the point where you want to join the next segment.
- 2 Hold down F3.  
*You see Connect Mode is on in the status line.*

- 3 Place the connecting point.
- 4 Continue digitizing the segment.

## Applying Appliqué

### About Appliqué Borders

Use the Appliqué  tool to create an appliqué border around. An appliqué border is similar to a Steil stitch border.

You can find Appliqué settings within the Appliqué segment settings property page. To create an Appliqué Border around your appliqué, you should know how to access the Appliqué segment settings property page and create the following stitches:

- **Run stitch:** The run stitch outlines the shape of the appliqué on the fabric. The run stitch also lets the operator know exactly where to place the appliqué piece on the fabric. After this stitch, the machine stops so the appliqué can be placed on the fabric.
- **Tack down stitch:** The tack down stitch fastens the appliqué to the fabric. This stitch ensures that the appliqué piece does not shift or move while the appliqué border sews.
- **Appliqué border stitch:** The appliqué border is similar to the steil border. The appliqué border outlines the shape of the appliqué and securely fastens the appliqué to the fabric, finishing the design.

The Run, Tack Down, and Appliqué Border stitches have their own sections on the Appliqué property page. By selecting the appropriate check boxes in each section, you can enable or disable these Appliqué Border components. For example, you can have an appliqué segment made up of a Run and

Appliqué Border but no Tack Down stitches. Check boxes that are not selected will disable all settings related to this Appliqué Borders component.

### Creating an Applique Border

#### Step 1: To see the appliqué segment settings

- 1 In the Digitizing toolbar, select the Appliqué  tool.  
*The pointer becomes a cross hair.*
- 2 Open the tool settings Property Page.
- 3 Select the Appliqué tab.

#### Step 2: To create a run stitch

- 1 To create a run stitch for your appliqué border, select Run positioning, if not already selected.
- 2 In the Stitch Length box, enter the length of each stitch for the run.
- 3 In the Offset box, enter the distance that the run will be offset from the segment outline.



The offset value can be positive or negative. This value will affect which side of the outline the run will sew on.

- 4 From the Stop list, select one of the following commands to appear immediately after your last stitch in the Run component:
  - ♦ **None:** Apply no command after your last stitch in the Run component.
  - ♦ **Stop:** Apply a stop command after your last stitch in the Run component.
  - ♦ **StopWithColor:** Apply a stop command and a color change after your last stitch in the Run component.

- 5 In the Frame out distance box, enter a distance value for how far above the design the frame out movement will jump. After the initial run stitch, the machine stops to give the operator a chance to place the appliqué piece. Selecting the frame out setting causes the frame of the machine to move out a specified distance towards the operator, making it easier to place the appliqué on the fabric. For example, if the distance value is 50.00 mm, the frame out will move 50.00 mm vertically from the last stitch in the Run component and above the top of the design. The machine will then place a Stop or a Stop-WithColor in this location, jump back to the original location and continue stitching.



Choosing a frame out distance value allows operators more space to work with a design as the machine head will be positioned out of the way.

- 6 To complete your Run component, click OK and go to *Step 5: To complete run, tack down and appliqué border components*.
- 7 To add Tack Down or Appliqué Border components, go to the appropriate steps.

### Step 3: To create a tack down stitch

- 1 To create a tack down stitch for your appliqué border, select Tack down, if not already selected.
- 2 From the Border Type list, select one of the following stitch types:
- ◆ E-stitch
  - ◆ Running
  - ◆ ZigZag

- 3 In the Offset box (for Running stitch only), enter the distance that the tack down will be offset from the segment outline.



The offset value can be positive or negative. This value will affect which side of the outline the tack down will sew on.

- 4 In the Width box (for E-stitch and ZigZag stitch only), enter the width of the E-stitch or ZigZag stitching.
- 5 In the # of Repeats box, enter the number of times that the tack down component will be sewn. Only values equal to 1 or higher are allowed. After all repeats are sewn, stops will be applied, if applicable.
- 6 In the Stitch Length box, enter the length of each stitch for the tack down.
- 7 In the Inside box (for E-stitch and ZigZag stitch only), enter a percentage value. The percentage value is the amount of tack down you want sewn on the inside of the appliqué segment line.
- 8 In the Density box (for E-stitch and ZigZag stitch only), enter the density of the E-stitch or ZigZag stitching.
- 9 From the Stop list, select one of the following commands to appear immediately after your last stitch in the Tack Down component:
- ◆ **None:** Apply no command after your last stitch in the Tack Down component.
  - ◆ **Stop:** Apply a stop command after your last stitch in the Tack Down component.
  - ◆ **StopWithColor:** Apply a stop command and a color change after your last stitch in the Tack Down component.
- 10 In the Frame out distance box, enter a distance value for how far above the design the frame out movement will jump. After the tack down stitch, the machine stops to give the operator a chance to adjust the appliqué piece, if necessary.

Selecting the frame out setting causes the frame of the machine to move out a specified distance towards the operator, making it easier to adjust the appliqué on the fabric. For example, if the distance value is 50.00mm, the frame out will move 50.00mm straight up vertically from the last stitch in the tack down component and above the top of the design. The machine will then place a Stop or a StopWithColor in this location, jump back to the original location and continue stitching.



Choosing a frame out distance value allows operators more space to work with a design as the machine head will be positioned out of the way.

- 11 To complete your Tack Down component, click OK and go to *Step 5: To complete run, tack down and appliqué border components.*
- 12 To add Run or Appliqué Border components, go to the appropriate steps.

#### **Step 4: To create an appliqué border stitch**

- 1 To create an appliqué border stitch, select Appliqué border, if not already selected.
- 2 From the Type list, select one of the following stitch types:
  - ♦ Steil
  - ♦ E-stitch
  - ♦ Programmed Run
  - ♦ Run
- 3 If Run is selected, select the type of run in the Border run type list:
  - ♦ Bean
  - ♦ Run
  - ♦ Two ply
- 4 The E-Stitch direction field (active for E-stitch borders only) determines which way the E-stitch border faces, relative to the

Applique. Select one of the following options:

- ♦ Legacy (this is the default behavior)
  - ♦ Always outside
  - ♦ Always inside
- 5 From the Pattern list (for Programmed Runs only), select a programmed pattern that will be used for the appliqué border.



These patterns will be available to programmed runs and fills.

- 6 In the Offset box (for Programmed Runs only), enter the distance that the appliqué border will be offset from the segment outline.
- 7 In the Width box (for E-stitch and Steil only), enter the width of the appliqué border stitching.
- 8 In the # Repeats box, enter the number of times that the appliqué border component will be sewn. Only values equal to 1 or higher are allowed. After all repeats are sewn, stops will be applied, if applicable.
- 9 In the Stitch Length box, enter the length of each stitch for the appliqué border.
- 10 In the Inside box (for E-stitch and Steil only), enter a percentage value. The percentage value is the amount of appliqué border you want sewn on the inside of the appliqué segment line.
- 11 In the Density box (for E-stitch and Steil only), enter the density of the E-stitch or Steil stitching.
- 12 From the Corners list (for Steil only), select one of the following steil corner styles:
  - ♦ None
  - ♦ Style A
  - ♦ Style B



The steil corner style you select will automatically adjust the corners accordingly to improve stitch quality.

- 13 To complete your Appliqué Border component, click OK and go to *Step 5: To complete run, tack down and appliqué border components*.
- 14 To add Run or Tack Down components, go to the appropriate steps.

### Step 5: To complete run, tack down and appliqué border components

- 1 Do one of the following to punch the segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
  - ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press O to close the segment.
- 2 Press **ENTER** to complete the segment.

You can break up the appliqué segment after you create it, into its separate components, i.e. the run, tack down, and border components. Select the Appliqué, right-click, and choose Process—Breakup Appliqué. The run and tack down stitches will be processed as separate run segments, and the border portion will be processed as a separate steil segment.

**Note:** Breakup will not work if the tackdown or border stitches of the Appliqué are E-stitches.



## Adding a Laser Cut to an Appliqué Segment

If you have a laser bridge machine and the Laser tools option, you can now take advantage of the Auto Laser Appliqué feature. This feature inserts a laser cut segment into an existing Applique segment.

### To add a laser cut to an appliqué:

- 1 Open a design with an existing appliqué, or create a new design with appliqué.

- 2 Select the segment.
- 3 Right-click, and from the context menu, select Process—Auto Laser Appliqué. *The Laser cut will be added to the design, as well as the positioning stitches.*

## Clip Stitches Setting for Appliqué

For Applique border segments that overlap each other, it is now possible to “clip” or remove the overlapped portions automatically using the Segment Settings dialog.

- Choose “Clip stitches” to remove the part of the selected segment which is overlapped by an appliqué segment on top of the selection.
- Choose “Clip stitches below” to remove the part of the underlying appliqué segment which is overlapped by the selected segment.



If an appliqué segment overlaps other appliqué segments both above and below, it is possible to select both “Clip stitches” and “Clip stitches below.”

Note that, when the setting is applied, only the border stitches of selected appliqué segments will be removed; the positioning and tack-down stitches will be left intact.

### To apply Automatic Clip for Applique Segments:

- 1 Select an appliqué segment.
- 2 On the Selection Settings panel, select the Quality Control  tab. *You see the Quality Control page.*
- 3 Select either Clip Stitches, Clip stitches below, or both.

- Optional: Enter an amount (distance) into the Clip overlap distance field. This retained overlap allows you to ensure that no gaps appear between the adjacent Applique segments in the design.

*The overlapped stitches will be removed from your design.*

## Appliqué Fabrics

Use the Appliqué Fabrics setting (located in the Properties panel) to add a fabric background to an Appliqué segment. This can simulate the effect of having real fabric in the segment.

You can use either the fabric images supplied with the software, or import you own images to use as fabric background. See “Importing Images to use as an Appliqué Fabrics.”

### To apply a fabric to an appliqué:

- Select an Appliqué segment.
- In the Properties panel, choose Selection Settings.
- Click the Appliqué tab.
- In the Appliqué Fabrics area, select a pattern from the drop-down list.  
*In the workspace, you will now see that the appliqué segment is filled in with the chosen fabric image.*

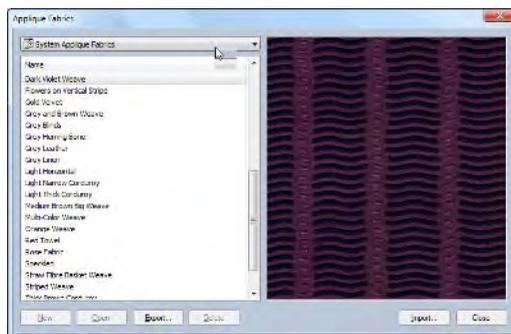


## Importing Images to use as Appliqué Fabrics

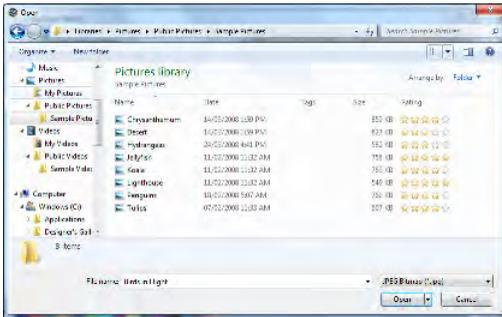
You can also use your own images for the Appliqué background. This is done by way of the Appliqué Fabrics dialog (Tools—Manage—Appliqué Fabrics). This dialog permits you to import image files into the Appliqué Fabrics folder on your computer. You can import files in the following formats: \*.bmp, \*.jpg, \*.png, or \*.gif. Tajima DG16 by Pulse will convert the image file to the correct format to use as an appliqué fabric fill.

### To import a an image file for an Appliqué Fabric fill:

- From the menu bar, choose Tools—Manage—Applique Fabrics.  
*You see the Appliqué Fabrics dialog.*

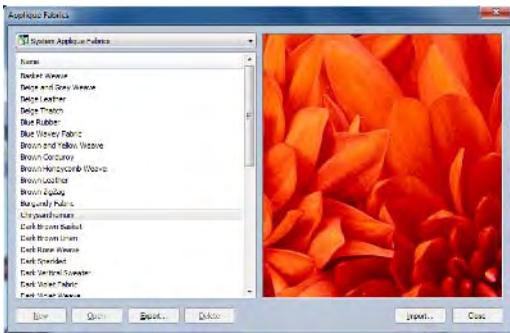


- Click “Import.”  
*You see a Windows “browse” dialog.*



- 3 Browse to the directory with the image file that you want to import.
- 4 Select the file type of the image from the option list in the lower-right of the dialog.
- 5 Select the image you want to import in the browser window.

*You see a preview of the selected image.*



- 6 Click Import.  
*Your image will now be available in the list of Appliqué Fabrics in the segment properties panel.*

## Showing and Hiding the Appliqué Fabric

Depending on the circumstances, it may be useful to show, hide, or see through the appliqué fabric fill. You can change the visibility of

the fabric image by choosing one of the following settings from the Outlines button  drop-down list:

- **Hide Appliqué Fabric;** the image will not be displayed in the segment.
- **Transparent Appliqué Fabric;** the image of the fabric fill will appear, but other segments underneath will show through it.
- **Filled Appliqué Fabric;** the image will be shown, and will cover up any segments underneath it.

## Cross-stitch and Cross-stitch Fill

### Creating Cross-stitch

The Cross-stitch tool creates a traditional hand-sewn cross-stitch effect. This tool generates cross-stitches instead of straight lines along a simple path. Similar to other digitizing tools, when you punch cross-stitches you use scanned artwork or an image as a backdrop. To create cross-stitches, you rely on the grid to punch your points in straight lines.



You can only create cross-stitch using the Straight Drawing mode. The other drawing modes (e.g. Bezier, QuickDraw, etc.) will not be available when the cross-stitch tool is selected.

### To use the Cross-stitch tool:

- 1 In the Digitizing toolbar, click the Cross-stitch  tool.
- 2 In the Grid Spacing box, enter an even-numbered value.
- 3 To change the grid settings, right-click the ruler on the design window.

*You see the Grid Settings dialog box.*

- 4 Set the Horizontal and Vertical Spacing to match the value that you set for Grid Spacing.
- 5 In the Snap Style area, click Center. *The Cross Stitches you punch will snap to the center of the grid box you punched them in.*



You should have Snap to Grid turned on, if it is not already turned on. Press Shift + backspace on your keyboard to turn on Snap to Grid. To turn off Snap to Grid, press Shift + backspace again.

- 6 Click OK.
- 7 To view the grid, click Show Grid  on the top of the design window.
- 8 Because the grid boxes are too small to work with, you should make adjustments use the Zoom tool: In the View toolbar click the Zoom tool.
- 9 Left-click in the design workspace to zoom in at the level that you find comfortable.



When using the Zoom tool, you can right-click in the design workspace to zoom out.

- 10 In the Digitizing toolbar, click the Cross-stitch tool again.
- 11 On the properties panel, click the Cross-stitch tab.
- 12 In the Start Corner and Stop Corner drop-down list Select one of the following values
  - ◆ Top left
  - ◆ Top right
  - ◆ Bottom right
  - ◆ Bottom left
- 13 Click in one grid box to place the first point.
- 14 Click in another grid box to place the second point.
- 15 Continue placing your points to complete the first segment.

- 16 When you are finished placing your points, press **ENTER** to complete the segment. *Tajima DG16 by Pulse generates crosses to connect one anchor point to another anchor point.*
- 17 When the pointer becomes a green arrow with a white bead, click the location you want the start point (green bead).

## Creating Cross-stitch Fill Segments

It is now also possible to quickly create areas that are filled in with stitches that replicate the traditional hand-sewn cross-stitch effect. You can use the Cross-stitch Fill tool to create shapes using any of the regular drawing modes, or you can convert an Artwork segment to Cross-stitch Fill using the Convert tool.

### To create a cross-stitch fill:

- 1 In the Digitizing toolbar, click the Cross-stitch Fill  tool. *The pointer becomes a cross hair.*
- 2 Do one of the following:
  - ◆ To create an open segment, click in the design workspace to place the anchor points in your design.
  - ◆ To create a closed segment, click the design workspace to place the anchor points in your design and press O to close the segment.
- 3 Set the entry and exit points;
  - ◆ When the pointer becomes a green arrow with a white bead, click the location you want the start point (green bead).
  - ◆ When the pointer becomes a red arrow with a white bead, click the location you want the stop point (red triangle bead).

- 4 Press **ENTER** to complete the segment.
  - 5 Select the segment, and adjust any of the following settings on the Properties bar:
    - ♦ **Grid Spacing:** The linear distance across the Cross-stitch squares (from corner to corner) - the default is 2.0mm/ 0.08 in.
    - ♦ **Overlap:** Distance by which the segment overlaps the border of the punched area - defaults to 0.
    - ♦ **Repeats:** Number of times that the stitches making up the Cross-stitch Fill are repeated - defaults to 0.
    - ♦ **Start Lock and End Lock:** Choose the type of lock stitch to put at the start and end of the new segment: None, Basic, or Line.
    - ♦ **Start and Stop Lock Stitch Lengths:** Length of the stitches used in the lock stitch segments. For more information about lock stitches, see the Glossary.
  - 6 Press **ENTER** again to see the adjustments you made to the segment reflected in the Workspace.
- 2 In the Pattern list, select a Satin type or Fill pattern.
  - 3 On the design workspace, click with your left mouse button to punch the segment.
  - 4 Press O to close the segment.
  - 5 Press **ENTER** to complete the segment.
  - 6 To set the start and stop points and the angle line for your segment, do the following steps:
    - ♦ When the pointer becomes a green arrow, click where you want to set the start point.
    - ♦ When the pointer becomes a red arrow, click where you want to set the stop point.



After you close the segment, you can right-click to quickly set the entry and exit points by accepting the system defaults.

*For more information about adjusting the settings of the Cascade Fill segment, see [Changing your Segment Settings > Cascade Fill](#).*

## Cascade and Spiral Fill Segments

### Creating a Cascade Fill Segment

Use the Cascade Fill tool to create Cascade fill segments. Cascade fill creates a kind of contour stitch which can be used to fill large areas with relatively few stitches.

#### To create Cascade Fill stitches:

- 1 In the Digitizing toolbar, select the Cascade Fill  tool.  
*The pointer becomes a cross.*

### Creating a Spiral Fill Segment

The Spiral Fill tool creates a fill segment that fills the digitized outline with linear (run-type) stitches. It looks somewhat like a contour stitch, except in the Spiral fill pattern, the stitches are laid out (as far as is practicable) in one continuous run. This eliminates the need for “joins” or travelling stitches between the contours of the segment.

#### To create Spiral Fill stitches:

- 1 In the Digitizing toolbar, select the Spiral Fill  tool.  
*The pointer becomes a cross.*
- 2 On the design workspace, click to place points to digitize the segment.

- 3 When you have finished tracing out the shape, press **ENTER** to complete the segment.

*You will see that the stitches have been generated in the design.*

*The cursor changes to a red triangle.*

- 4 Click on the place on the segment where you want to set the stop point.

Note that with the Spiral Fill type, you do not set the start point of the segment; the tool set that by default, at the center of the outline that you set.



However, you can move the start bead, by clicking and dragging it with the Select tool. When you move the start point, it changes the origin of the spiral.

*For more information about adjusting the settings of the Spiral Fill segment, see Changing your Segment Settings—Spiral Fill.*

## Programmed Fills and Runs

### Creating Custom Programmed Fill patterns

Programmed Fill patterns are patterns available with Tajima DG16 by Pulse (some levels of the software), or patterns that you create to apply to a Run segment to make Programmed Runs or to a Fill segment to make a Programmed Fill. To create a Programmed Fill pattern, you digitize the stitch pattern and save it as a Programmed Fill file. Then you can select the Programmed pattern and apply it to a Run or Fill segment.



We recommend that the design touch all four sides of the work area. Keep in mind that Carved Fills are a series of Satin stitches, so avoid large open areas.

### To create custom Programmed Fill patterns:

- 1 Create the stitch pattern using the Manual tool  or the Run tool .
- 2 When you are finished creating the pattern, press **ENTER** to complete the segment.
- 3 Choose File—Save and make necessary adjustments in the Save As dialog.
- 4 Click Save to save the design.
- 5 Click M to activate the Stitch Select  tool.
- 6 Select the stitches that will form the pattern.
- 7 Press Ctrl+E and choose Save as Programmed Fill Pattern from the shortcut menu.
- 8 Enter a name for your pattern.
- 9 Click Save.

*You see the Save Programmed Fill Pattern dialog box. All Programmed Fill patterns have a \*.PFL extensions.*

*You can now use the programmed fill pattern you created in the current design as well as new or existing designs.*

### Special Notes:

- Make sure you save the file in Program data\Tajima\DG16 by Pulse\Patterns \Program folder or you will not be able to use the pattern.
- When creating the pattern, set the start and stop points of the design to be on opposite sides of the shape; this will ensure the design runs properly.

## Using Programmed Fills

Programmed Fill patterns are patterns available with Tajima DG16 by Pulse, or patterns that you apply to a Run segment to make Programmed Runs or to a Fill segment to make a Programmed Fill. To create a Programmed Fill pattern, you digitize the stitch pattern and save it as a Programmed Fill file (\*.pfl). Then you can select the Programmed Fill pattern and apply it to a Run or Fill segment.

### To use Programmed Fills:

- 1 In the Digitizing toolbar, click the Complex Fill  tool.
- 2 In the Fill Type list, select Programmed Fill.
- 3 In the Stitch Length box, enter the stitch length.
- 4 In the Pattern list, select the Programmed Fill pattern.
- 5 On the design workspace, do one of the following to punch the segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
  - ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press O to close the segment.
- 6 Press **ENTER** to complete the segment.
- 7 Set the entry and exit points and angle line. See the following steps for instructions.
  - ♦ When the pointer becomes a green arrow with a white bead, click the location you want the start point (green bead).
  - ♦ When the pointer becomes a red arrow with a white bead, click the location you want the stop point (red triangle bead).

- ♦ When the pointer becomes a small arrow with a bead, click and drag from left to right to place an angle line in your segment.

### Tips

- Each of the patterns that come with Tajima DG16 by Pulse need unique settings for the density and stitch length. To view samples of the Programmed Fill Patterns with Density and Stitch Length requirements, choose Help—Fills, and then click the book titled Programmed Fills and Runs.
- You can continue to right-click to quickly set the start and stop points and angle line by accepting the system defaults.

## Using Programmed Runs

A Programmed Run is a Run segment that uses a Programmed Fill pattern. For instructions on creating Programmed Fill patterns, see "Creating Custom Programmed Fill Patterns". See the Fill online Help (located under Help—Fills on to view the Programmed Fill patterns available.

### To create a Programmed Run segment:

- 1 In the Digitizing toolbar, click the Run  tool.  
*The pointer becomes a cross hair.*
- 2 In the Run Style list, select Programmed.
- 3 In the Pattern list, select the Programmed Fill pattern.
- 4 Do one of the following steps to punch a Programmed Run segment:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.

- To create a closed segment, click the design workspace to place the anchor points in your design and press O on your keyboard to close the segment.
- 5** Press **ENTER** to complete the segment.  
*Tajima DG16 by Pulse applies the Programmed Fill pattern to the Run segment.*

Note that Programmed run segments sew out differently than other run types. In cases where the Start (green bead) and Stop (red bead) points of a segment do not coincide with the end points of the outline, single run stitches are placed to connect these end points to the Start and Stop points.  
This method eliminates the extra stitches that would be required to sew the programmed pattern over these sections.



## Applying Stitch Effects to Runs

In the Run property page, you can select a Stitch Length Profile that will vary the length of the Run stitch throughout the segment. This means that normal Run or Programmed Run stitch segments can have varied stitch lengths throughout one segment. You can create many decorative effects including Fireworks using Programmed Run stitches.



You can use Stitch Length Profile settings to create special effects in your embroidery designs. You use the Stitch Length Profile settings to vary the stitch length and minimum stitch length values to achieve a special look. The stitch length and minimum stitch length values are displayed and can be changed in the Segment Settings property pages.

Stitch Length Profile Setting	What it does
Linear Increasing	Gradually increases the stitch length in a selected segment from the Minimum stitch length to the Stitch length value.
Linear Decreasing	Gradually decreases the stitch length in a selected segment from the Stitch length to the Minimum stitch length value.
Convex	Starts gradually increasing the stitch length in a selected segment from the Minimum stitch length to the Stitch length value. Then, begins gradually decreasing the stitch length from the Stitch length to the Minimum stitch length value at the center of the selected segment.
Concave	Starts gradually decreasing the stitch length in a selected segment from the Stitch length to the Minimum stitch length value. Then, begins gradually increasing the stitch length from the Minimum stitch length to the Stitch length value at the center of the selected segment.

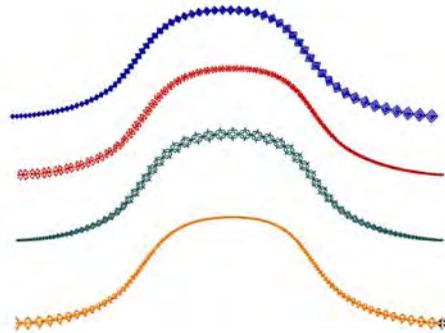
## To apply stitch effects to Runs:

- 1 Select the New  tool.  
*You see a new design window.*
- 2 In the Digitizing toolbar, select the Run  tool.
- 3 Create a Run segment.
- 4 In the Properties panel, select the run tab.
- 5 In the Stitch length profile box, select how to vary your Run stitches:
  - ◆ **None:** The length of the Run stitches will be consistent throughout the path. The Run stitch will not have a varying stitch length.
  - ◆ **Liner Increasing:** The stitch length will start at the value defined in the Min. Stitch Length box and will increase to the value defined by the Stitch Length box on the Run property page.
  - ◆ **Liner Decreasing:** The stitch length will start at the value defined in the Min. Stitch Length box and will decrease to the value defined by the Stitch Length box on the Run property page.
  - ◆ **Convex:** The Convex setting will produce a Run stitch where the stitch length is longest at the middle of the path and shortest at the ends.
  - ◆ **Concave:** The Concave setting will produce a Run stitch where the stitch length is shortest at the middle of the path and longest at the ends.
- 6 In the Min. Stitch Length box, enter the minimum stitch length required for the Run stitches you have punched.
- 7 Click Ok.  
*You see the segment altered accordingly.*

## Special Notes:

- The Chord Gap setting is ignored when using Stitch Length Profile.

- When using the Stitch Length Profile setting with Programmed Run stitches, the size of the program pattern is also adjusted according to the Stitch Length.



*Programmed Run stitches*

## Carved Fills

Tajima DG16 by Pulse comes with many Carved Tile patterns. These patterns create satiny regions with a grooved texture. You can apply Carve Patterns to a Complex Fill segment or to a TrueType® font.

## Applying Carved Fills to TrueType® lettering

You can apply a Carved Tile pattern to TrueType® lettering. You need to convert the lettering to segments and then apply a pattern.



Make sure Show 3-D is selected to view the pattern as it will be sewn.

## To apply Carved Fills to TrueType® lettering:

- 1 In the Lettering toolbar, click the Text tool.
- 2 Create the TrueType® lettering.
- 3 Press S on your keyboard to active the Select tool.

- 4 Press Ctrl+E on your keyboard.  
*You see a shortcut menu.*
- 5 Select Convert Lettering to Segments.  
*The text is now converted to segments.*
- 6 On the Click the Complex Fills property page.
- 7 In the Fill Pattern Type list, select Carved Tile, and click OK.
- 8 In the Pattern list, select the pattern you want for your lettering.  
*You see your segment altered accordingly.*



## Creating Carved Fill Regions

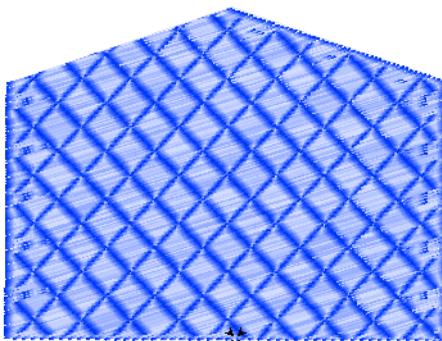
You can create a Carved Fill region that differs from the Carved Fill background by using the Region Carving tool. You can also place a border around the foreground segment to make it stand out from the Carved Fill background. For example, you can create the background using one pattern and then apply another pattern to the foreground using the Region Carving tool



Make sure Show Dots and Show 3-D Stitches are selected to view the patterns.

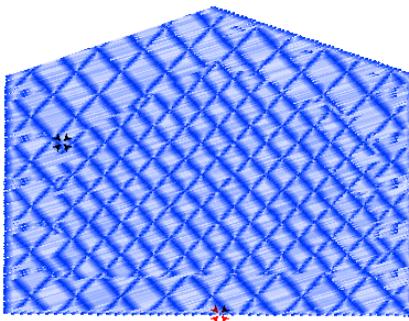
### To create a Carved Fill region different from the background Fill:

- 1 Create a new or select an existing Carved Fill segment.



Example of a Carved Fill segment (Pattern 201b).

- 2 In the Digitizing toolbar, click the Region Carving  tool.
- 3 In the Pattern list, select a pattern for the region. (In this case, we have chosen Pattern 201).
- 4 On the design workspace, punch the Region Carving segment using your left mouse button.
- 5 To close a Region Carving shape, press **O**.
- 6 Press **ENTER** to complete the segment.  
*You see the segment altered accordingly.*



## Creating Carved Lines on a Fill or Steil Segment

You can make carved lines on an existing Carved Fill, Standard Fill or Steil segment, using the Line Carving tool. When you create

carved lines, the background pattern is not covered to the extent it is when the Region Carving tool is used. Region Carving creates entire regions that differ from the background Fill.



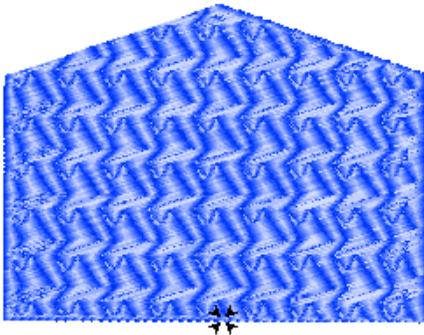
Make sure Show 3-D Stitches is selected to view the pattern as it will be sewn.

### To create a carved lines on a Complex fill of Steil segment:

- 1 Select the Complex fill or Steil segment you want to use as a background; in the example shown below, it will be applied to a carved tile area.



Note that line carving cannot be applied to some kinds of Fills (Programmed, Fractal). Similarly, it cannot be applied to Swirl or Double Swirl segments



A Carved fill segment prior to Line carving.

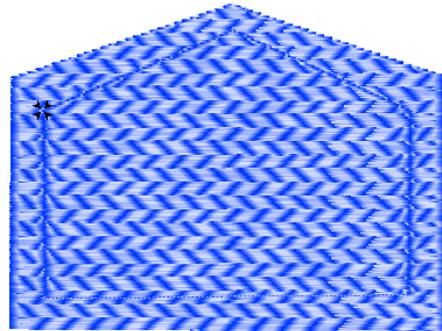
- 2 In the Advanced Digitizing toolbar, click the Line Carving  tool.
- 3 On the design, left-click to place the points of the Line Carving segment.
- 4 To punch a Line Carving segment, do one of the following:
  - ♦ To create an open segment, click the design workspace to place the anchor points in your design.

- ♦ To create a closed segment, click the design workspace to place the anchor points in your design and press O on your keyboard to close the segment.

- 5 Press **Enter** to complete the segment.  
*You see the new carved segment inside the existing segment.*
- 6 Press **S** to active the Select tool .
- 7 Select both the Carved Tile and Line Carving segments.
- 8 In the Pattern box, select pattern 19.  
*The pattern has changed and you can see the Line Carving more clearly.*



To change the properties of your segment, see the Properties panel. Click the appropriate tab to make the setting changes.



## Creating Borders Around Carved Regions

You can create a thin border around a Carved Fill region to make it stand out from the background region.



You can also create a Steil border around a Carved Tile region, if you want to create a thick border around the region.

### To create a border around a Carved region:

- 1 Create a Region Carving segment.

- 2 Press Ctrl+E, and choose Properties from the shortcut menu.  
*You see the Edit Stitch Types dialog box.*
- 3 Click Add Stitch Type.  
*You see the Choose Stitch Type dialog.*
- 4 In the Choose Stitch Type box, choose Line Carving.
- 5 Click OK.
- 6 Click Done.  
*You see your segment altered accordingly.*



Make sure Show 3-D Stitches is selected to view the pattern as it will be sewn.

## Blending Thread Colors in a Segment

### Using Auto Color Blend

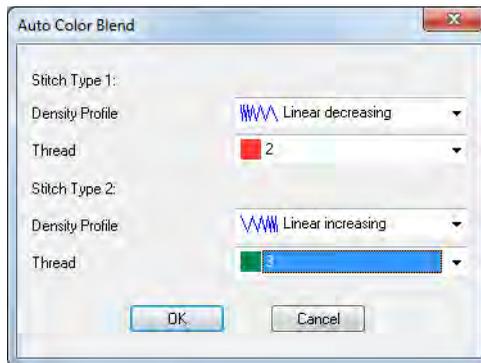
Use Auto Color Blend to combine two thread colors in one segment. You can select two colors and separate density profiles for one segment.



This feature is available for Column, Satin Path, and Complex Fill segments.

#### To use Auto Color Blend:

- 1 Select a segment.
- 2 Right-click, and select Auto—Color Blend from the menu.  
*You see the Auto Color Blend dialog.*



- 3 Do the following:
  - ♦ In the Density Profile lists, select the profile that best suits your needs.
  - ♦ In the Thread colors lists, select the thread colors you want to blend.  
*The Density Profile controls how the stitches will be blended.*



For best results, choose opposite density profiles for the two thread colors. For example, choose Linear Increasing for one color and Linear Decreasing for the other color.

- 4 Click OK.
- 5 The Auto Color Blend Dialog will close.
- 6 Press G to generate stitches.  
*The segment now has two colors.*

## Branching

### Branching tips

Branching is a method for generating stitches efficiently. Previously, when you wanted to digitize designs with many segments, you would create segments separately and arrange the start and stop points individually for each. Then, you would add connecting Run segments and sequence all of the design segments in the correct order.

Branching lets you create multiple Satin, Steil, and Run segments that are sequenced without jumps and are given one start and one stop point on the closest connecting columns. Branched segments are combined to behave as one large segment, inserting Run stitches instead of jumps.

You can use branching with the Column, Enhanced Column, Satin Path, Steil, Run, Import Artwork, and Import TrueType® tools. You can also combine existing Satin, Steil, and Run segments to create a branched segment.



You can control the sequencing partially by adjusting the start and stop points.

Branching signals Tajima DG16 by Pulse to do the following tasks:

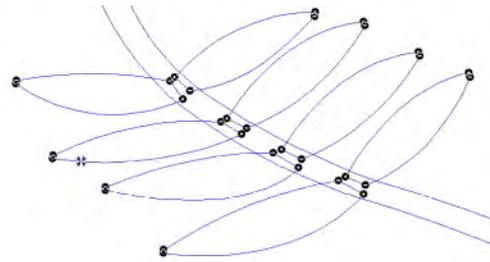
- Generate Contour underlay first.
- Place the connecting Run stitch.
- Sequence the connecting columns.
- Treat all the connecting columns as one large segment.
- Set the start and stop points to the closest connection point.
- Generate stitches properly.

## Tips for Connecting Columns

### Overlapping

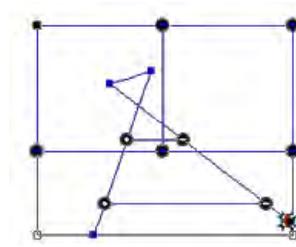
There must be some overlap between the connecting columns. The overlap creates better stitching results. In the Edit toolbar, you can use Select  or Vertex Select  to select the vertex point at the end of the column and move it inside the other column.

The following image shows an example of overlapped segments.



### Bow ties

The following figure shows an example of points that are crossed, creating a bow tie. The segments will not branch properly.

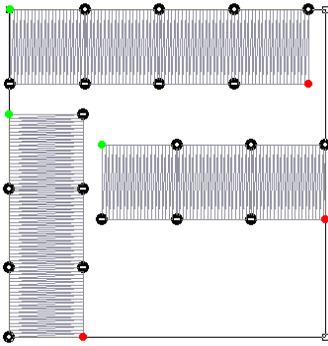


## Branching Existing Segments

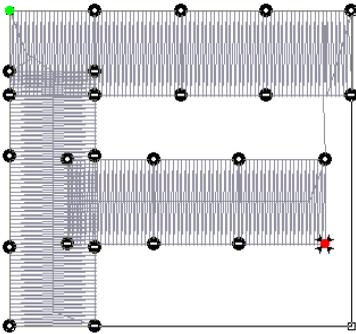
You can use branching on existing designs. You can create branched Satin, Steil, and Run segments by combining existing segments in designs.

### To create branched Satin Path segments:

- 1 Move all the segments so the connecting columns overlap.
- 2 Click the Select  tool and select all of the segments.

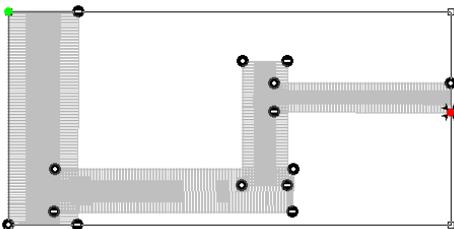


- 3 Click **Combine**  from the Artwork Tools toolbar.



## Branching New Segments

You can create branched segments as you punch designs. You can create branched Satin, Steil, and Run segments.



### To create branched Satin segments:

- 1 In the Digitizing toolbar, click the Enhanced Column  tool.  
*The pointer becomes a cross.*
- 2 In the Pattern list, select a pattern.
- 3 On the design workspace, click with your left mouse button to punch a segment.
- 4 Press **K** to add a new column segment.
- 5 Digitize the next segment.
- 6 To connect the segment with one of the existing columns, make sure the columns overlap.
- 7 Press **ENTER** to close the segment.
- 8 Set the entry and exit points. See the following steps for instructions.
  - ♦ When the pointer becomes a green arrow with a white bead, click the location you want the start point (green bead).
  - ♦ When the pointer becomes a red arrow with a white bead, click the location you want the stop point (red triangle bead).

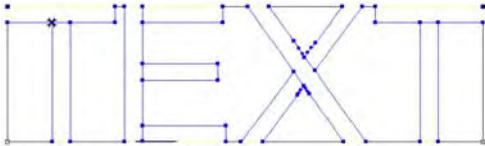
## Creating Branched Segments

You can use Branching with the Artwork tools. Although there are different procedures for digitizing using the Artwork tools, the general steps for branching segments created with the Artwork tools are the same.

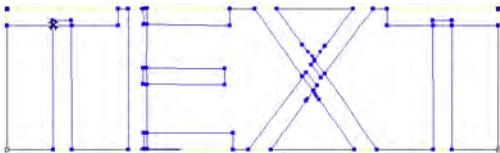
### To create a branched segment with the Import TrueType® tool:

- 1 Create an artwork segment using Import TrueType® .  
*You see the Text Entry dialog.*
- 2 In the Text box, enter the word "TEXT"; click OK.

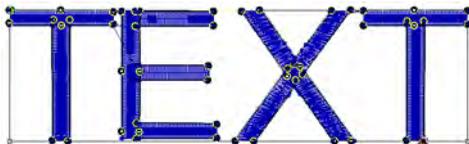
- 3 Resize the lettering so it is approximately 1 inch.
- 4 Select each letter and then use Slice  to slice each letter into separate columns.
- 5 You will have to add anchor points to the letter "E" using Vertex Select .



- 6 Edit each letter to make sure that you have overlapped the artwork segments at the locations you sliced.



- 7 Apply the angle lines using Angle Lines , making sure you intersect the angle lines for the connecting columns.
- 8 Click Combine  tool from the Artwork Tools toolbar to join the segments.



## Wave stitches

### Creating Wave Fill Patterns

The Wave Fill pattern type lets you apply wave stitches to Complex Fill segments. Wave stitches follow the contour of the curves you create. Waves are useful to demonstrate motion in fills. The wave pattern can be created using one wave or two waves.

Waves can be applied to Standard, Carved Tile, and Programmed Complex fill segments; Waves are not applicable to Fractal fills.

#### To create a single Wave:

- 1 Select the Complex Fill  tool.
- 2 Select Tool settings from the drop-down list at the top of the Properties panel.
- 3 Select the Complex Fill tab.  
*You see the complex fill settings.*
- 4 Select the desired Fill type - Standard, Carved tile, or Programmed.
- 5 In the Stitch line type list, select Wave.
- 6 In the Wave area of the Properties panel, enter 1 in the Wave Number box.
- 7 In the design workspace, digitize the desired shape.
- 8 Press **Enter** (or right-click depending on your User settings) to complete the segment.
- 9 Set the start and stop points for the Complex fill, as normal, pressing ENTER afterwards each time.  
*The Complex fill segment will be generated; by default, a straight wave line will be generated as well.*
- 10 Do one of the following:

- ◆ Select the Wave  tool. Click points across the fill segment to create the wave in the desired shape.  
*The new wave line will replace the default straight wave.*
- ◆ Using the Vertex  select tool, add anchors to, or select the existing anchors, to modify the shape of the wave line.



The wave line should be open without overlapping.

**11** Press **ENTER** to complete the wave.

### To add a wave to an existing fill:

- 1** Select an existing wave fill segment.
- 2** In the Segment Settings panel, select the Complex Fill tab.
- 3** In the “Stitch line type” list, select Wave.
- 4** Under Wave, enter **1** in the Wave Number box.
- 5** Select the Wave  tool, and click points across the fill segment to create the wave.  
*The curve you draw should be open without overlapping.*
- 6** To complete the wave fill segment, press **ENTER**.  
*The stitches will regenerate to follow the wave line.*

## Adding a Second Wave Fill Pattern

When creating fills with one Wave line, the contour of this single wave line is propagated through the entire segment. When creating two wave lines, the generated contours are slightly different.

For example, if you add a second wave line above the first wave line, the stitches above the second wave line take the contour of the second wave line after you generate stitches. If you add a second wave line below the first wave line, the stitches below the second wave line take the contour of the second wave line. However, between the two wave lines, the generated stitches follow a blend of the two wave contours.

### To create a segment with two waves:

- 1** In the Digitizing toolbar, click the Complex Fill  tool.
- 2** Select “Tool settings” from the drop-down list at the top of the Properties panel.
- 3** Select the Complex Fill tab.  
*You see the complex fill settings.*
- 4** Select the desired Fill type – Standard, Carved tile, or Programmed.
- 5** In the Stitch line type field, select Wave.
- 6** In the Wave area of the Properties panel, enter **2** in the Wave Number box.
- 7** In the design workspace, digitize the desired shape.
- 8** Press **ENTER** or right-click (depending on your User settings) to complete the segment.
- 9** Place the start and stop points for the Complex Fill as normal, pressing **ENTER** each time.  
*The Complex fill segment will be generated, with the two wave lines across it.*
- 10** Use the Vertex  select tool to add anchors to, and/or modify the shape of the wave lines.



The wave lines should be open without overlapping.

**11** Press **ENTER** to complete the wave.

## To add a second Wave to an existing segment with one Wave:



Note that to enter the second line in this way, the user settings must be configured to complete segments with the Enter key; the wave will not be completed if “Complete segments with right-click” is on. If necessary, change this setting in Tools-User Settings-.Environment.

- 1 Select an existing Wave Fill segment.
- 2 In the Properties Panel, the Wave property page.
- 3 In the Wave Number box, enter 2.
- 4 Select the existing wave segment.
- 5 From the Edit tool bar, select the Wave tool.
- 6 To create the first wave line, punch a Bezier curve to represent how the stitches will travel through the shape.  
*The curve you draw should be open without overlapping.*
- 7 Press **ENTER**.
- 8 To create the second wave line, above or below the first wave, punch another Bezier curve to represent how the stitches will travel through the shape.  
*The curve you draw should be open without overlapping.*
- 9 To complete the waves, press **ENTER**.

## Applying Stitch Effects to Wave Fill Patterns

In the Wave property page, you can select the Graduated Stitch Length Profile settings to vary the length of the Wave stitches throughout the segment. You can create many decorative effects for your Wave stitches.

It is important to note that Graduated Stitch Length only applies to Programmed Wave fills.



You can, however, apply variable density to of a Standard or Carved tile Wave segment to vary its appearance. This is done using the Density Line  tool. See the following section of this guide.

You can use Graduated Stitch Length Profile settings to create special effects in your embroidery designs. You use the Graduated Stitch Length Profile settings to vary the stitch length and minimum stitch length values to achieve a special look. The stitch length and minimum stitch length values are displayed and can be changed in the Segment Settings property pages



You may wish to reduce the density of the wave fill so that you can see the stitch pattern more clearly. The density can be reduced by 2-3 pts.

Graduated Stitch Length Profile setting	What it does
Linear Increasing	Gradually increases the stitch length in a selected segment from the Minimum stitch length to the Stitch length value. 
Linear Decreasing	Gradually decreases the stitch length in a selected segment from the Stitch length to the Minimum stitch length value. 

Graduated Stitch Length Profile setting	What it does
Convex	<p>Starts gradually increasing the stitch length in a selected segment from the Minimum stitch length to the Stitch length value. Then, begins gradually decreasing the stitch length from the Stitch length to the Minimum stitch length value at the center of the selected segment.</p> 
Concave	<p>Starts gradually decreasing the stitch length in a selected segment from the Stitch length to the Minimum stitch length value. Then, begins gradually increasing the stitch length from the Minimum stitch length to the Stitch length value at the center of the selected segment.</p> 

### To apply stitch effects to waves:

- 1 From the Digitizing toolbar, select the Complex Fill  tool.
- 2 On the properties panel (Selection Settings) click the Complex Fill tab.
- 3 From the list of fill types list, select Wave.
- 4 In the Wave properties area of the Selection settings, adjust the following settings:
  - ◆ In the Wave number box, choose the number of waves to include in the segment. (The Wave Number is the number of waves that will be defined within a segment. You can choose to set the Wave Number to either 1 or 2).
  - ◆ The stitch length used for the waves is defined in the Stitch Length box. Stitches can be smaller at the edges of

the shape or near holes. The default setting is 3mm.

- ◆ In the Min. Stitch Length box, enter the minimum stitch length required for the Wave stitches you have punched. This setting is used in combination with the Graduate Stitch Length Profile setting to create a special effect by varying the length of the stitches throughout the shape. The default length is 1.0mm.



Waves use the Along Edge traveling route and therefore pull compensation has no effect on these segments. Any values for pull compensation are ignored.

- ◆ In the Graduated Stitch Length Profile box, select how to vary your Wave stitches:  
The Graduated Stitch Length Profile a special function that will automatically change the length of the stitches as they travel through the Fill. In the Stitch Length Profile box, select how to vary your Run stitches using one of the five settings including None, Linear Increasing, Linear Decreasing, Convex and Concave. For more information, see "Applying Stitch Effects to Waves".
  - ◆ **None:** The length of the Run stitches will be consistent throughout the path. The Run stitch will not have a varying stitch length.
  - ◆ **Linear Increasing:** The stitch length will start at the value defined in the Min. stitch length box and will increase to the value defined by the Stitch Length box on the Run property page.
  - ◆ **Linear Decreasing:** The stitch length will start at the value defined in the Min. Stitch Length box and will decrease to the value defined by the

Stitch Length box on the Run property page.

- ♦ **Convex:** The Convex setting will produce a Run stitch where the stitch length is longest at the middle of the path and shortest at the ends.
- ♦ **Concave:** The Concave setting will produce a Run stitch where the stitch length is shortest at the middle of the path and longest at the ends.

5 Press G to regenerate Stitches.

## Variable Density for Wave fills

In addition to the stitch effects referred to in the preceding section, you can also vary the density of a Wave fill segment across its

breadth, by using the Density  tool to place a line and density beads.

This procedure works exactly as it does for a complex fill segment; see “Changing Segment Settings—Complex Fill Properties—Variable Density for Complex Fills” for full details of how to create a variable density line.

## Editing Wave Fill Patterns



You cannot edit waves using Undo.

You can replace or modify the waves you

create in a fill with the Wave  tool.

### To re-enter Waves:

- 1 Select the existing Complex Fill segment that contains the Wave.



If the segment is using two waves, you can press **ENTER** to re-enter the second wave after you have edited the first wave.

- 2 From the Edit toolbar, select the Wave  tool.  
*The mouse pointer turns into a cross.*
- 3 Click on the workspace to create points for the wave line.
- 4 Press Enter to complete the wave line.  
*The stitches re-generate automatically; the new wave appears in your fill pattern.*

## Fur Stitch

### Creating a Fur Stitch Fill Segment

Fur stitch creates a multi-layered, jagged satin stitch effect that repeats through the shape, producing an embroidery fill with the look of animal fur. This tool varies the stitch length and automatically randomizes the stitch placements, to give the Fur Stitch segment a 'natural' appearance.



Punching a fur stitch segment is much like punching a satin path, in that the process involves creating a vector outline, and then placing the start bead, a stop bead, and one or more angle lines.

There is another element that can be added to the Fur Stitch segment, with is the Wave line. Adding waves divides the Fur Stitch fill into separate segments. Each segment sews in sequence, which gives the segment a 'layered' appearance.

### To create a Fur Stitch segment:

- 1 From the Advanced Digitizing toolbar, select the Fur Stitch  tool.
- 2 Click in the workspace to punch the outline of the shape. Press **ENTER** when the shape is complete.  
*The pointer changes to a bead with a green triangle.*
- 3 Place the Start point, and press **ENTER**.  
*The pointer changes to a bead with a red triangle.*
- 4 Place the Stop point, and press **ENTER**.  
*The pointer changes to an Angle line bead.*
- 5 Place one or more of angle lines across the segment; press **ENTER** again.

- 6 Punch out the desired number of wave lines to create layers in the segment.
- 7 Press G to generate the stitches.

To add new layers to the Fur stitch segment after it has been generated, Select the Wave tool. This tool allows you to punch Wave lines into the Fur stitch segment using Bezier curves.



To remove Wave lines, do the following: select the Vertex Select tool, and click on one of the anchors of the Wave to select it. Then right-click, and choose "Delete wave" from the options.

## Adjusting Fur Stitch Properties

The following are the segment settings that are particular to Fur Stitch segments. The Fur Stitch settings can be changed through the Properties panel; click the Fur stitch tab to bring these settings forward.

Note that many of the settings that apply to Fur stitch are the same as the settings for Satin segments - these are not covered here.



For information on these settings (such as Density, Short Stitch settings, and so on) see "Satin Segment Properties" under "Changing your Segment Settings".

- **Fur Stitch Type:** There are two options in this setting - select Standard or Contour. A Standard Fur stitch sews out very much like a Satin Stitch; the stitches go from one side of the outline to the other, and the direction is determined by the angle lines. In the Contour type, on the other hand, the stitches are sewn to follow the outline of the segment.
- **Fur Zig-zags:** This is an option to Fur Stitch, which places zig-zag stitches within

each layer in the pattern. There are three settings:

- **None:** No zig-zag stitches are added.
- **Automatic:** A number of zig-zag stitches are generated so as to fill the segment evenly. If the segment is resized, the number of zig-zags in each layer will change when stitches are regenerated.
- **Number:** The number of zig-zags in each layer is set by the number you type into a box; when the segment is resized the number of zig-zags stays the same, they just get farther apart.
- **Zig-zag style:** Modifies the angle of the zig-zag stitching; choose between “smooth” and “aggressive.”
- **Zig-zag range:** Determines the length of the zig-zag stitches.
- **Zig-zag random range:** Determines the extent to which the Zig-zag stitches will vary randomly, beyond the normal range. The number you enter in this box serves as the upper limit on this random range.

These settings are equivalent to the corresponding settings for Satin Contour Stitch - for more information, see "Creating Contour Stitches for Satin Stitch Types" under "Changing your Segment Settings."

## Contour Settings

For Contour Fur stitch segments, you will notice that additional settings become available on the Fur Stitch Effects tab of the Segment Settings page. These are specific to the Contour type of Fur stitches; they include:

- Contour Stitch density
- Minimum Stitch length
- Density type
- Short Stitch percentage





# CHAPTER 19

## Using Librarian

Tajima DG16 by Pulse allows you to view, store and manage designs stored in the databases on the Librarian Enterprise Server. You can also choose to use Librarian to store artwork separately from stitch files or store artwork together with stitch files in the same Librarian database.

*Topics covered in this chapter:*

- Opening a new Librarian database.
- Find out how to group designs in databases.
- Searching the Librarian database for designs.

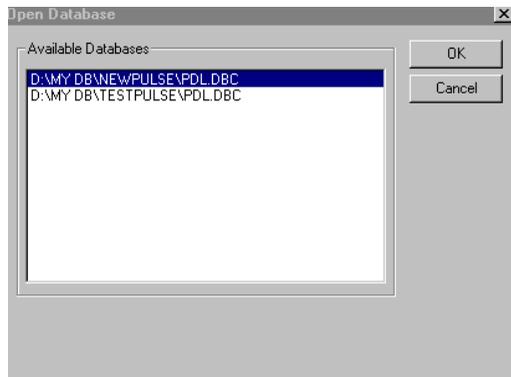
# Librarian Basics

## Opening the Librarian Databases

Tajima DG16 by Pulse lets you access the databases on the Librarian Enterprise Server. You first need to open Tajima DG16 by Pulse.

### Special Notes:

- Librarian Enterprise Server must be running and the database must be open on the Librarian Enterprise Server for you to have access to the database designs.
- If you are authorized to access only one database, it opens automatically once you enter your user name and password. If you are authorized to access two or more databases, you must choose the one you want to open.



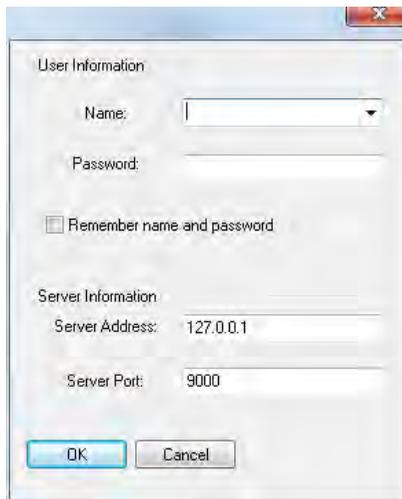
- User names and passwords are case-sensitive.
- A client can only open one database at a time.
- If you were using a local database in a previous session, you need to switch to Remote (multiuser). Choose Librarian—

Switch to Remote (multiuser). Click OK in the message box.

- If you did not enter a server name during installation of the program, enter it in the Server Address box. For more information about finding the IP address of the server, see the Using Tajima Passport guide.

### To open the Librarian databases:

- 1 Choose Librarian—Logon.



- 2 In the Name box, enter your user name.
- 3 In the Password box, enter your password.
- 4 Click OK.  
*You see User logged on message in the status bar.*
- 5 Choose Librarian—Open Database.  
*You see a list of available databases.*
- 6 Select the database, then click OK.  
*You see Database opened successfully in the status bar.*  
*You can now work with the designs.*

## Closing the Librarian Databases

When you are finished using the designs in a database, you can close the database so that you can open another one while still being logged on to the Librarian Enterprise Server.

### To close the Librarian databases:

- Choose Librarian—Close Database.

## Viewing Database Properties

You can find out the properties of your design database using the Design Properties command on the Librarian menu.

### To view database properties:

- Choose Librarian—Database Properties.  
*You see the Database Properties dialog box.*

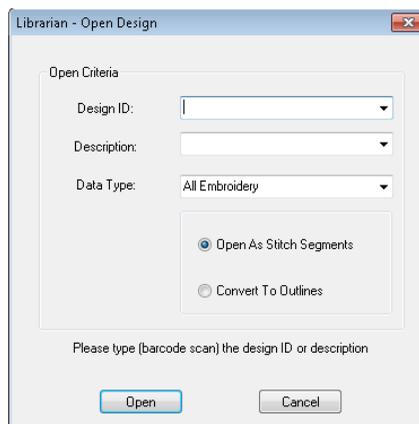


## Opening a Design

If you know the name or the description of a design you previously saved, you can open it through Open Design on the Librarian menu.

### To open a design:

- 1 Choose Librarian—Open Design.  
*You see the Librarian—Open Design dialog box.*



- 2 Do one of the following:
  - ♦ In the Design ID box, enter the name of the design or select a design name from the list.
  - ♦ In the Description box, enter the description of the design or select a design description from the list.
- 3 In the Data Type list, select one of the following types of designs you want opened:
  - ♦ All Embroidery
  - ♦ Stitch Design
  - ♦ Outline Design
  - ♦ Chenille Design
  - ♦ Outline Chenille Design

Some stitch designs may not have an associated outline design. All outline designs, however, will have an associated stitch design. To view all design files associated with your design, see "Viewing associated design files".



- 4 If you have selected All Embroidery, Stitch Design, or Chenille Design in the above step, choose one of the following options:
  - ♦ Open as Stitch segments.
  - ♦ Convert to outlines.
- 5 Click Open.

## Closing a Design

When you are finished working with the design, you need to save any changes you have made. Then, you can close the design by closing the file you are working with.

### To close a design:

- Choose File—Close.

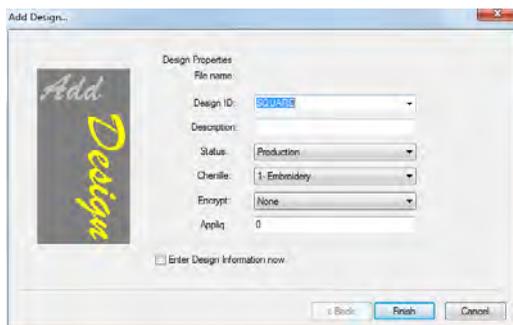
## Saving a Design to a Database

As you are working in Tajima DG16 by Pulse or another Librarian client, you may want to add the design to a Librarian database. When you save a design you need to enter only the Design ID. All other design information is optional.

### To save a design to a database:

- 1 Open the design into the Tajima DG16 by Pulse workspace.
- 2 Choose Librarian—Save As Design or Save Design.
- 3 In the Design ID box, enter a design ID if you wish to rename the design.
- 4 Click OK.

*You see the Add Design dialog box.*



- 5 In the Description box, describe the design.

- 6 In the Status list, select one of the following:
  - ♦ Production
  - ♦ Non-production
- 7 In the Encrypt list, select if you want to encrypt the designs in the database. The default is “none”.



Only special versions of Librarian Enterprise Server can store designs in an encrypted format. This feature is not normally available to Tajima DG16 by Pulse users and is available upon request. To add designs to these databases, you must set the encryption flag on from the Encrypt list.

- 8 In the Chenille list, choose one of the following options:
  - ♦ Chenille
  - ♦ Embroidery
- 9 In the Applique. box, enter the number of appliqués in the design, if applicable.
- 10 Do one of the following steps:
  - ♦ To add more design properties select Enter Design Information Now. Click Next.
  - ♦ To save the design without additional design properties, click Finish.

## Organizing Designs

### Grouping Strategies

Librarian provides a hierarchical structure for storing designs referred to as ABC Groups. These groups help organize and categorize your designs. The A Groups are primary groups in a database. B Groups are secondary groups that fall within the appropriate A Groups in a database. Finally, C Groups are tertiary groups that further categorize designs belonging to B Groups in a database.

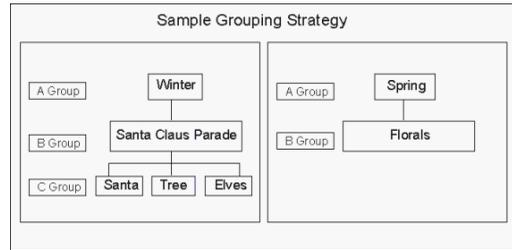
Before you start loading designs into the database, you should decide on a grouping strategy. You can either load all your designs into the database and group them later or you can group your designs when you load them. Saving a design to a group is similar to saving a file to a folder in Windows. However, you create a sort of alias of the design rather than a copy of it. We recommend you limit the total number of groups to 1000 to help ensure the performance of the software.

If needed, you can link your designs to more than one A Group, allowing you to find a single design by searching a variety of groups. The first ABC Group that you link a design to is considered the Main Group. When you search for a design, you can choose to search all groups that the design has been linked to or you can search only the Main Group links.



You must be an authorized advanced user to make changes to the group structure of a database. If designs are not categorized effectively, you may experience problems using design databases.

When you group designs into ABC Groups, you need to decide what categories make logical groups for your selection of designs. Suppose a company has a large client base involving seasonal designs. Therefore, their A Groups are named after the four seasons: Winter, Spring, Summer, and Autumn. They often supply community groups with embroidered merchandise for the annual Santa Claus parade. Thus, the Winter A Group has a B Group named Santa Claus Parade. The C Groups within it are Santa, Tree, and Elves. Another B Group within Winter is Winter Carnival.



## Adding a New A Group

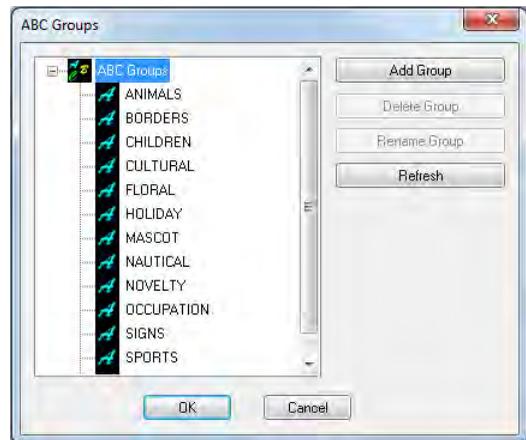
An A Group is a primary group. B Groups can be added within the A Group if you have designs that fall into sub-categories. For example, you could make an Animals A Group. Within the Animals group, you could make two B Groups named Wild and Domestic.

### To add a new A group:



If you are not authorized to add groups, you see the message "Access denied—not enough rights" when you click OK. See an administrator for help.

- 1 Choose Librarian—Groups.  
 You see the ABC Groups dialog box.



- 2 Click Add Group.  
*You see the New 'A' Group dialog box.*
- 3 Select New Group.



- 4 Enter a name for the new A Group.
- 5 Click OK.

## Adding a New B Group

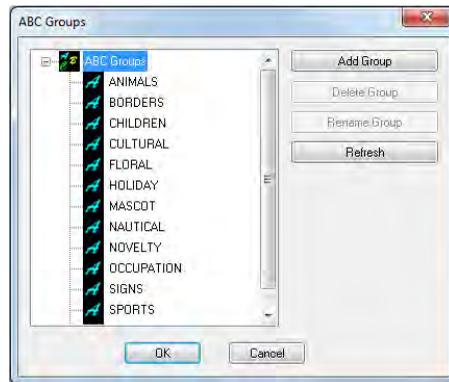
A B Group is a secondary group within an A Group. B Groups add more specific categories to A Groups. For example, one of the A Groups in this example is Animals. You could link B Groups named Wild and Domestic to this A Group.

### To add a new B group:



If you are not authorized to add groups, you see the message "Access denied—not enough rights" when you click OK. See an administrator for help.

- 1 Choose Librarian—Groups.  
*You see the ABC Groups dialog box.*



- 2 Select the A Group to which you want to add a new B Group, then click Add Group.  
*You see the New 'B' Group dialog box.*
- 3 Select New Group.



- 4 Enter a name for the new B Group.
- 5 Click OK.
- 6 Repeat steps 2 to 5 if you want to add more B Groups.

## Adding a New C Group

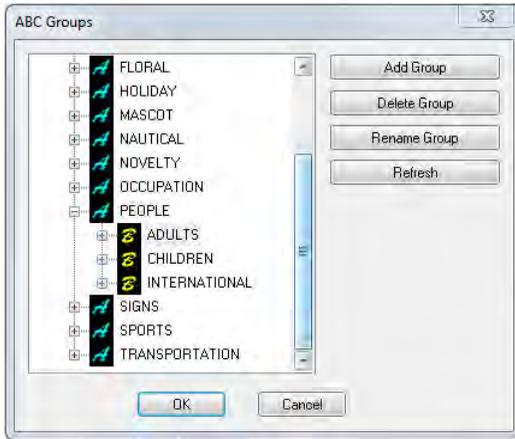
A C Group falls within a B Group. C groups further refine the categorization of the B Group to which they belong. For example, one of the A Groups mentioned below is Animals, the B Group is Wild and a C Group would be Tigers.

## To add a new C group:



If you are not authorized to add groups, you see the message "Access denied—not enough rights" when you click OK. See an administrator for help.

- 1 Choose Librarian—Groups.  
*You see the ABC Groups dialog box.*



- 2 Double-click an A Group to see a list of B Groups.
- 3 Select the B Group to which you want to add the new C Group, then click Add Group.  
*You see the New 'C' Group dialog box.*
- 4 Select New Group.



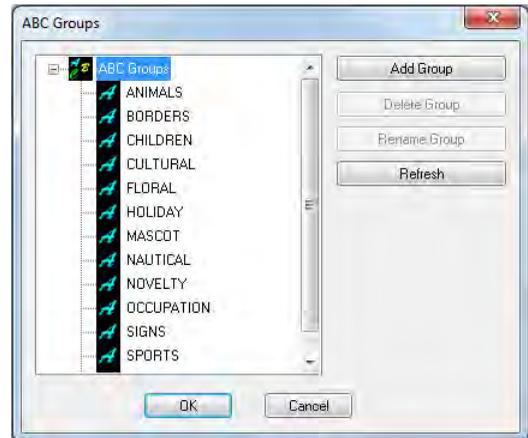
- 5 Enter a name for the new C Group.
- 6 Click OK.
- 7 Repeat steps 2 to 6 if you want to add more C Groups.

## Renaming Design Groups

You can rename groups if they do not contain designs.

### To rename design groups:

- 1 Click Librarian—Groups.  
*You see the ABC Groups dialog box.*



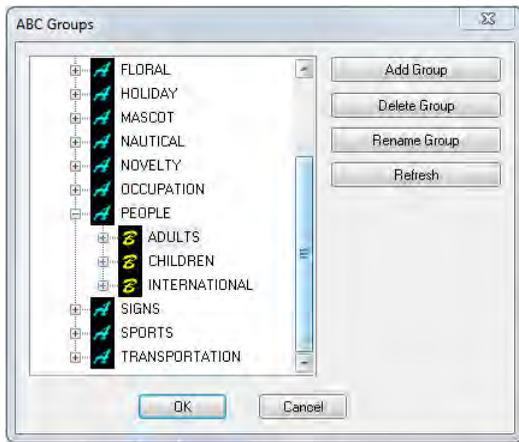
- 2 Select the group you want to rename, then click Rename Group.
- 3 Enter the new name.
- 4 Click OK.

## Deleting an ABC Group from a Database

To delete a group, you need to first remove all designs from the group and sub-groups. The sub-groups must be removed as well.

### To delete an ABC Group from a database:

- 1 Click Librarian—Groups.  
*You see the ABC Groups dialog box.*



- 2 Double-click the group names until you see the group you want to remove.
- 3 Select the group that you want to remove.
- 4 Click Delete Group.  
*You see the Delete Group dialog box asking you if you are sure you want to delete the selected group.*
- 5 Click Yes.

## Creating Links between Designs and ABC Groups

One design can belong to up to five groups. For example, a design could belong to one A Group and four B or C Groups or it could belong to five A Groups. The first group that a design is linked to becomes the Main Group. For more information on Main Groups, see "Grouping Strategies" and "Advanced searching techniques". When you save a design to a group, you are not copying the design into a folder; you are creating a link between the design and the group. You create an alias of the original design in the ABC Groups that you link to the design.

### To create links between designs and ABC Groups:

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon and choose Properties from the menu.
- 3 Click the Groups property page.
- 4 Click Add To.
- 5 Select the ABC Group you want to link to the design.
- 6 In the ABC Groups dialog box, click OK.
- 7 Click OK.

## Removing Designs from ABC Groups

You can remove designs from ABC Groups at any time.

### To remove designs from ABC Groups:

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon and choose Properties from the menu.
- 3 Click the Groups property page.  
*You see the groups associated with the design.*
- 4 Select the group association that you want to remove.
- 5 Click Remove From.  
*You see the message asking you if you are sure you want to remove the design from the selected group.*
- 6 Click Yes.  
*The design is removed from the group.*

# Searching for Designs

## Searching for Designs in a Librarian Database

Using Tajima DG16 by Pulse, you can search for designs that are stored in the Librarian databases. Typically, designs are saved and grouped. You can add additional information, otherwise known as design properties, to designs to help you find them. In Tajima DG16 by Pulse, you enter search criteria and all the designs that match the search criteria will be displayed.



Stitch file and artwork design searches must be handled separately. You can not search for both of these designs as part of the same search.

You can search for a design using broad or specific criteria. For example, if you want to find a certain rose design, you may search Group A: Floral or Group B: Roses. More designs will appear when you use Group A: Floral since this group is broad. It could include several B Groups, such as Roses, Tulips, Daisies, and Arrangements. When you use more extensive and specific search criteria, your search results are more refined.

If you are unsure of the exact design properties, you can use advanced search syntax or advanced searching techniques to help you find certain designs.



You can search for designs that meet certain criteria. If you do not know exact design properties, such as the Design ID, search using Groups or use advanced search syntax.

### To search for a design:

- 1 Choose Librarian—Search.

*You see the Select Search Criteria property pages.*

- 2 Enter the search criteria in one or more of the following property pages: General, ABC Groups, Properties, and User Defined.

- 3 Click OK.

*You see a selection of designs that meet the search criteria in a Database View window. Now you can open the design or change its properties.*

You can use the View Settings options under Librarian Settings to specify the number of designs you would like to view in the Database View window. Select Manual to choose the number of designs you want to view or select AutoFit (default setting) for the software to determine the number.

## Viewing Designs in a Database



You can also use the view buttons in the Database View window to change the design view.

You can change the way you view designs in the Database View window. You can view designs in a database by Large Icon, Small Icon, List, or Detail. These views are standard Windows® folder views.

### To view a design:

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon.  
*You see a shortcut menu.*
- 3 Choose View from the menu and select one of the following:
  - ♦ Large Icon.
  - ♦ Small Icon.
  - ♦ List
  - ♦ Detail.

*The view is changed to the view type you selected.*

## Emailing Designs

Tajima DG16 by Pulse now allows you to send designs stored in the Librarian database to others via email using Tajima DG16 by Pulse's built in email capabilities. Before you can use the email capabilities in Librarian, you must first configure the email settings. In order to use the email function in Librarian, your computer must be connected to the Internet.

### To configure your email settings:



To configure the email settings for Librarian, you should contact your network administrator or Internet service provider for the correct settings for your system.

- 1 Choose Librarian—Librarian Settings...  
*You see the Librarian Settings dialog box.*
- 2 Under Email Settings do the following:
  - ♦ In the Smtip Server box, enter the name of the email server.
  - ♦ In the Email Address box, enter your email address.
- 3 Click Apply.
- 4 Click OK.

*You are now ready to send designs from Librarian to others via email.*

### To send designs via email:

- 1 Search for the designs you want to email.
- 2 Hold down CTRL on your keyboard and click the designs you want to email from the Database View. You can also hold down SHIFT and click the last design icon in a row of multiple design icons.
- 3 Right-click over one of the selected designs.  
*You see a shortcut menu.*
- 4 Choose Output—Email from the menu.  
*You see the Email Design dialog.*
- 5 Select one or more of the following options for exporting your design:
  - ♦ Worksheet
  - ♦ JPG
  - ♦ PXF
  - ♦ DST

Depending on the options selected, you may not see all of the following dialogs. The following procedures and dialogs will appear in order when all of the above options are selected.



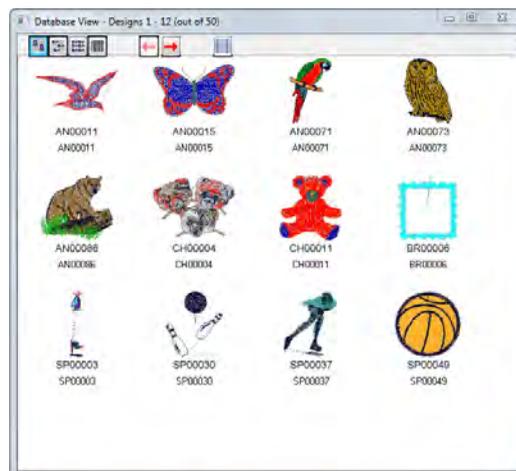
- 6 Click Next.  
*You see the Print Work Sheet Options dialog.*
- 7 In the Worksheet Size area, select one of the following sizes for your worksheet:
  - ♦ A4.
  - ♦ Custom. Once this option is selected, the Width and Height boxes become active. Enter appropriate dimensions in each box for your worksheet.
  - ♦ Letter Size (8.5"x11").
- 8 In the DPI box, enter a DPI value for the worksheet. The higher the DPI value, the more detailed the worksheet image will be.
- 9 To adjust information displayed in the design worksheet, click Print Settings. For more information, see "Setting up design worksheets".
- 10 Click Next to continue.  
*You see the JPG Image Options dialog.*
- 11 In the Save As area, choose one of the following image sizes:
  - ♦ Actual Size. Select to have the image saved using your design's original dimensions.
  - ♦ Fixed Size. Select to have the image saved using fixed design dimensions. Once this option is selected, the Width and Height boxes become active. Enter appropriate dimensions in each box.
  - ♦ DPI. Enter a DPI value for the saved image.
- 12 Click Finish to save all changes.  
*Tajima DG16 by Pulse will launch your email software. The exported images will appear as attachments in a new email. Enter appropriate email information and send your email.*

## Opening a Design from the Database View

Once you search for a design, a selection of designs meeting the search criteria appears in the Database View window.

### To open a design:

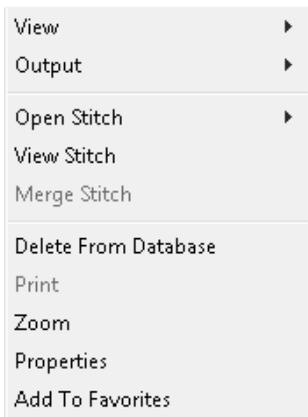
- 1 Search for a design. For more information, see the "Searching for designs in a librarian database" section.  
*You see the Database View window.*



- 2 In the Database View window, right-click the design icon to gain access to that design.  
*You see a shortcut menu.*



If a design has a stitch and an outline file, you will see a different menu with the Open Outline and View Outline options available.



You can double-click any design to open the outline file, if it exists. If the outline file does not exist, the stitch file will open instead.



- 3 Choose Open Stitch to open the Stitch file (\*.PSF) or View Stitch to view the Stitch file.

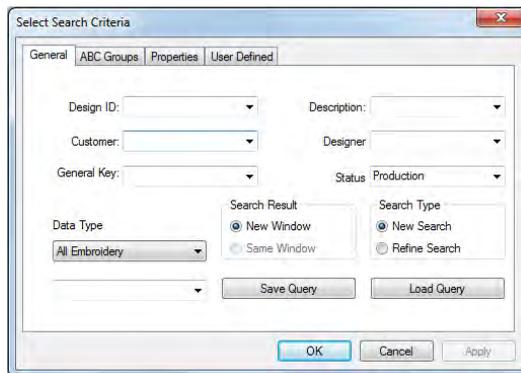
*The design opens in the Tajima DG16 by Pulse workspace.*

## Saving a Query

You can save the search criteria that you enter to search for a design or a group of designs, and then use it the next time you search for the same designs or designs that have similar properties.

### To save a query:

- 1 Choose Librarian—Search.  
*You see the Select Search Criteria property pages.*



- 2 Click a property page to access the available design property categories.
- 3 Enter search criteria on each of the property pages.
- 4 Click the General property page.
- 5 In the box beside Save Query, enter a name for the query, and click Save Query.

## Using a Saved Query to Find Designs

The search criteria that you enter to search for a design or a group of designs can be saved and then used the next time you search for the same designs or the ones that have similar properties

### To use a saved query to find designs:

- 1 Choose Librarian—Search.  
*You see the Select Search Criteria property pages.*



- 2 In the box beside Save Query, select the query that you want to use from the list of previously saved queries.
- 3 Click Load Query.  
*You see the search criteria for that query.*
- 4 Click OK.

## Advanced Searching Techniques

The Select Search Criteria dialog box offers advanced searching features that include: Search Result and Search Type in the General property page and Search Groups in the ABC Groups property page. Primarily these features are used to refine a query based on the previous one. You can also see some different combinations of these advanced search features.

## Advanced Searching Examples

There are various ways that you can use the advanced searching features.

The following search produces a new set of designs and a new Database View window does not appear.



The following search provides a subset from the first search. The second set of designs should refine criteria from the first set.



The following search adds a set of designs to a new Database View window. The designs reflect criteria from the first and second set of search criteria.



The following search adds a set of designs to a new Database View window. The following search produces a new set of designs and a new Database View window appears.



## Using Advanced Search Syntax

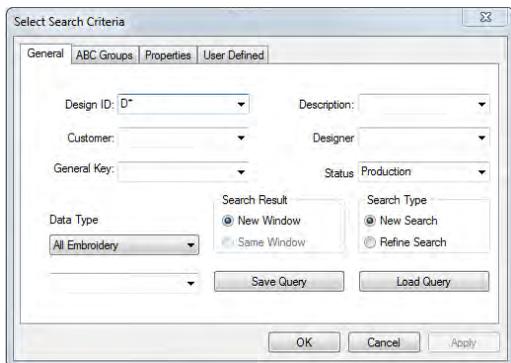
You can enter the special characters in many of the search criteria boxes on each of the property pages, excluding the Groups boxes. Use numeric symbols (< and > and =) in numeric boxes and wildcard characters (\* and ?)

in text boxes. This table explains how special characters can help you find a design or a group of designs.

In this example, you enter the information in the Design ID box on the General property page.

If you enter:	You find designs:	Example:
ANT	Named ANT	Ant
B*	Starting with the letter B	B, Bat, Beetle, Baseball
*T	Ending with the letter T	T, Cat, Kit, Street
*Z*	With the letter Z in it	Z, Zebra, Zoo, Zigzag
T????	With five letters and starting with the letter T	Truck, Trees, Trunk

Here are the results for a D\* search:

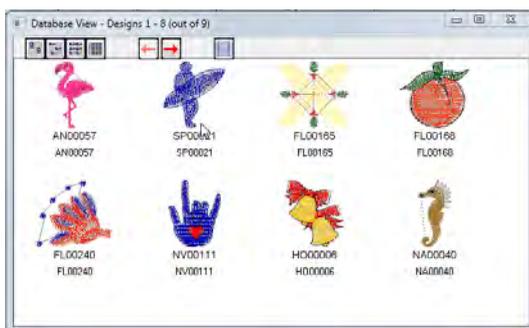
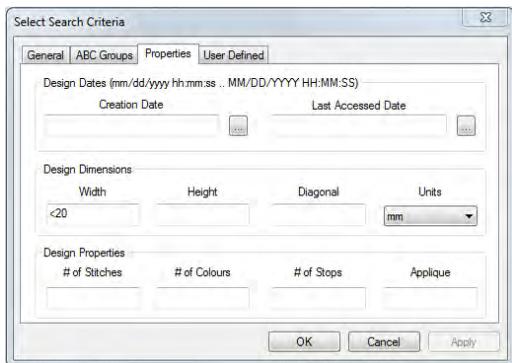


In this example, you enter information for the Height under the Design Dimensions on the Properties property page.

In the Properties property page you can also enter the number of stitches under Design Properties or enter the date the design was created under Design Dates.

If you enter:	You find designs:	Example:
28	With a height of exactly 28	28
>30	With a height greater than 30	31, 32, 33, etc.
<20	With a height less than 20	19, 18, 17, etc.
>10<25	With a height between 11 and 24	11, 12, 13...24
>=10	With a height equal to or greater than 10	10, 11, 12...200

Here are the results for a search for all designs less than 20 mm in width:



## User-defined Strings

You may use user-defined strings as another way to define designs in the databases on the Librarian Enterprise Server, but they are not necessarily used to categorize designs for searching purposes. Generally, ABC Groups and other categories in the Design Properties pages allow designs to be categorized for this purposes. The user-defined strings and Comments boxes allow you to add additional information about a design. For example, you may add a code that specifies which type of backing or facing should be used for the design, or you may specify whether the design is meant for caps or T-shirts.

# Working with Designs

## Adding Design Information to a Design

When you save a design to the Librarian database, you can save additional design information with the design. This design information is saved in the Design Property pages. You can use many of these categories to help you search for designs. All designs are saved with some default design properties; these default properties are the following:

- design width
- design height
- number of colors
- diagonal measurement
- number of stitches
- number of stops
- number of trims
- number of appliqués

If you choose, you can add additional design information to the design later.

You have flexibility for when you add the design information to the Design Properties pages. You can add design information in three ways, when you:

- ♦ Save the design you see multiple screens that prompt you for design information.
- ♦ Right-click a design icon in the Database View window and choose Properties from the menu.
- ♦ Open a design and choose Librarian—Design Properties.

### To add design information to a design:

- 1 Choose Librarian—Save As Design.
- 2 Select Enter Design Information Now in the Add Design dialog box to add additional design information.
- 3 Click Next.

*You see the Groups dialog box.*



- 4 Click Add to Group.  
*You see the ABC Groups dialog box.*
- 5 Do one of the following:
  - ♦ Select the Group that you want to add the design to and click OK.
  - ♦ Add a new Group. Select the new Group and click OK.



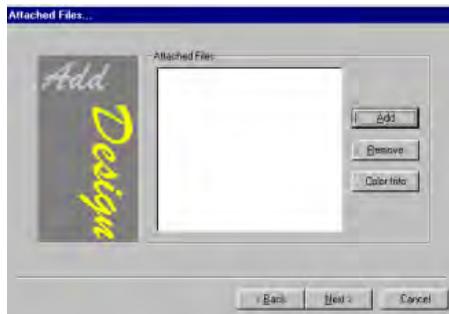
You can add the design to up to four more groups.

- 6 Click Next.  
*You see the Design Information dialog box.*



- 7 In the General box, enter the general key to create categories for designs, or select a previously defined General Key from the list.
- 8 In the Customer box, enter the name of the customer.
- 9 In the Designer box, enter the name of the designer.

- 10 In the User defined strings boxes, enter additional information concerning the design, such as what type of backing or facing to use.
- 11 Click Next.  
*You see the Attached files dialog box.*



- 12 Click Add.  
*You see the Open dialog box.*
- 13 Open the file or files that you want to attach.
- 14 To add color information, click Color Info.
- 15 Add the color information for the design in the PDLCOLORCOMBINATION file.
- 16 Choose File—Save.
- 17 Close the file.
- 18 On the Add Design window, click Next.  
*You see the Comments dialog box.*



- 19 In the Comments box, add any additional comments about the design.

- 20 Click Finish.  
*The design is saved with additional information.*

## Adding Color Information Files

You add the color information file when you add design information to a design. The design information is saved in the Design Properties pages. This feature lets you create a file attachment that will automatically be displayed each time the file is opened into the Librarian client workspace by embroidery machine operators. You may want to include color information, sewing order, and other instructions such as what type of backing or facing to use in this file.

### To add color information files:

- 1 Search for a design.
- 2 In the Database View window, double-click the design icon.
- 3 From the Librarian menu, choose Save As Design.
- 4 Click OK in the message box.
- 5 In the Add Design dialog box, select Enter Design Information Now.
- 6 Click Next.  
*You see the Groups dialog box.*
- 7 Click Next.  
*You see the Design Information dialog box.*
- 8 Click Next.  
*You see the Attach files dialog box.*



- 9 To attach additional files and add color information, complete the following:
  - ◆ Click Add.  
*You see the Open dialog box.*
  - ◆ Open the file or files that you want to attach.
- 10 In the Attached Files area, select the attached file you want.



Attached files contain information that may be useful to operators.

- 11 To add color information to the selected file, click Color Info.
- 12 Add the color information for the design in the PDLCOLORCOMBINATION.TXT file.
- 13 Choose File—Save.
- 14 Close the file.
- 15 On the Add Design window, click Next.  
*You see the Comments dialog box.*
- 16 Click Finish.

## Modifying Color Information Files

If you need to change the color information file, you can gain access to it through the Design Properties pages.

### To modify color information files:

- 1 Search for a design.

- 2 In the Database View window, right-click the design icon and choose Properties from the menu.
- 3 Click the Attachments property page.
- 4 In the Attached files area, double-click the PDLCOLORCOMBINATION.TXT file.
- 5 Make the needed changes to the file.
- 6 Choose File—Save.  
*The updated color information file is automatically attached to the design.*
- 7 In the Design Properties window, click OK.

## Deleting a Design from a Design Database

You can easily delete a design from a design database.

### To delete a design from a design database:

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon and choose Delete from the menu.  
*You see a message asking if you are sure that you want to delete the selected design.*
- 3 Click OK.  
*The design is removed from the design database.*

## Printing Multiple Designs from Librarian

You can select a number of icons from the search results window and print them.

### To print multiple designs:

- 1 Search for the designs you want to print.
- 2 Hold down CTRL and click the design icons of the designs you want to print.  
*You are able to select more than one design from the Database View.*

- 3 Right-click over one of the selected designs.

*You see a shortcut menu.*



- 4 Choose Print from the menu.  
*You see the Print dialog box for your printer.*
- 5 Click Print.  
*The designs are printed.*

## Using Zoom to View a Design

You can use Zoom to get a closer look at your design.

### To use zoom:

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon and choose Zoom from the menu.  
*Another window appears with the design magnified. You can continue to zoom to get a detailed view of your design.*

## Adding Designs to your Favorites View

You can add many designs from different views to one Favorites View window. For example, all the designs you use most often can be kept in one location.

### To add one design to your Favorites View:

- 1 Search for the design you want to add to your Favorites View.
- 2 Right-click over the selected design.  
*You see a shortcut menu.*
- 3 Choose Add To Favorites from the menu.  
*You see the Favorites View window with the design you have selected.*

### To add multiple designs to your Favorites View:

- 1 Search for the designs you want to add to your Favorites View.
- 2 Hold down CTRL and click the design icons of the designs you want to add.  
*You are able to select more than one design from the Database View.*
- 3 Right-click over one of the selected designs.  
*You see a shortcut menu.*
- 4 Choose Add To Favorites from the menu.  
*You see the Favorites View window with the designs you have selected.*

## Viewing Designs in your Favorites View

Designs added to your Favorites View window are preserved each time you use Tajima DG16 by Pulse. If you shut down the Favorites View window or Tajima DG16 by Pulse, you can still

retrieve designs from the previous session when you open the Favorites View window again.

### To view designs in your Favorites View:

- Choose Librarian—View Favorites.  
*You see the Favorite View window.*

## Removing Designs from your Favorites View

You may want to remove some designs from your Favorites View. For example, if you are no longer using the designs, you do not need to keep them in the Favorites View.

### To remove designs from your Favorites View:

- 1 Right-click the selected design.
- 2 Choose Remove from Favorites from the menu.

## Attaching Files to a Design

An excellent way to add information to a design is by attaching files to it. For example, you can attach the original artwork to the design.



You can also attach files in the Database View window by using the right-click shortcut menu.

### To attach files to a design:

- 1 Open the design.
- 2 Choose Librarian—Design Properties.  
*You see the Edit Design property pages.*
- 3 Click the Attachments property page.
- 4 Under Attached Files, click Add.  
*You see the Open dialog box.*

- 5 Select the drive, then the folder where the file is saved.
- 6 Double-click the file you want to attach.  
*You see the name of the file under Attached Files.*

## Detaching a File from a Design

You may want to create a copy of an attached file so that you can work with it.

### To detach a file from a design:

- 1 Search for a design.
- 2 Right-click the design and choose Properties from the menu.  
*You see the Design Properties pages.*
- 3 Click the Attachments property page.
- 4 Under Attached Files, select the file or files that you want to detach.
- 5 Click Detach.

## Removing Attached Files from a Design

If you no longer need an attached file, you can simply delete it.

### To remove attached files from a design:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Edit Design Properties property pages.*
- 3 Click the Attachments property page.
- 4 Under Attached Files, select the file or files that you want to remove.
- 5 Click Remove.

## Viewing Designs

### Viewing a Color Information File

When you add a design to the database, you can add a color information file named PDLCOLORCOMBINATION.TXT. Once this file is associated with the design, the file opens whenever you open the design in Tajima DG16 by Pulse or another Librarian client. When you import PDL database files that have color information entered in the Sequence fields, a color information file is automatically created and attached to the design.

### To view the color information file:

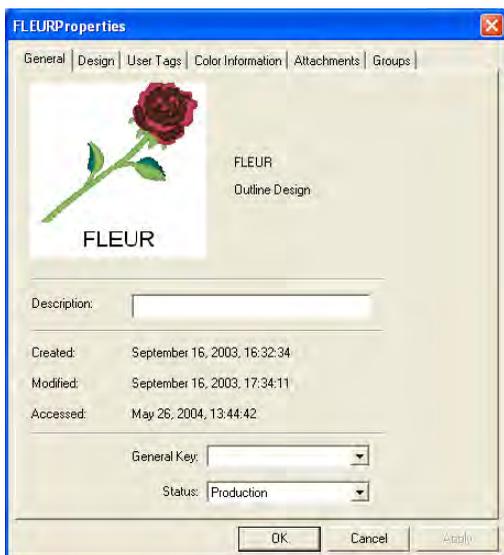
- 1 Search for a design.
- 2 In the Database View window, double-click the design icon.  
*You see the color information file.*

### Viewing the Design Properties Pages

You can view the properties of a design by opening the Design Properties pages.

### To view the Design Properties pages:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Properties dialog.*



- 3 Click the appropriate property pages to view and modify desired information.

## Viewing an Attached File

You may want to view an attached file, such as one that contains original artwork.

### To view an attached file:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Properties page.*
- 3 Click the Attachments property page.
- 4 In the Attached Files area, select the file or files that you want to view.
- 5 Click View.

## Viewing Associated Design Files

In Tajima DG16 by Pulse, designs can be saved as multiple file types. The design files associated with your design are shown within the Design Properties property pages on the Attachment page.

### To view associated design files:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Properties page.*
- 3 Click the Attachments property page.  
*In the Stitch Files area, you see a list of associated stitch files for your design, if applicable.*  
*In the Outline Files area, you see a list of associated outline files for your design, if applicable.*

## Viewing the Dimensions of a Design

The dimensions of a design are automatically entered in the Design Properties property pages on the Design page. You can choose to view the dimensions in embroidery points, inches, or millimeters.



If the design has been added to Librarian, you can also view the dimensions of a design in the Tajima DG16 by Pulse workspace. Choose Librarian—Design properties.

### To view the dimensions of a design:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Properties page.*

- 3 Click the Design property page. Under Dimensions box, you see the size of the design in embroidery points.
- 4 To view the dimensions of the design in inches, select inch from the box.
- 5 To view the dimensions of the design in millimeters, select mm from the box.

## Viewing Design Attribute Information

You can view specific information about a design's attributes. You can see the number of stitches, colors, trims, stops and appliqué present in a design.

### To view design attribute information:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Properties page.*
- 3 Click the Design property page.
- 4 In the Attributes area, you see the number of stitches, colors, trims, stops and appliqué.

## Viewing Thread Information

Thread palette information is listed in a design's property pages. Any thread palette information stored as a PXF or PSF design file will be added to a design's properties as an attachment. If a design contains multiple thread palettes, all of the palettes will be added.

You can also view display information on the thread colors for the first palette. The dis-

played information includes: manufacturer, thread code, color name, stitches, and length.



If the design has been added to Librarian, you can view the thread information of a design in the workspace. Choose Librarian—Design Properties.

### To view thread information:

- 1 Search for a design.
- 2 Right-click the design icon and choose Properties from the menu.  
*You see the Properties page.*
- 3 Click the Attachments property page.
- 4 In the Attached Files area, double-click the PTHREADPALETTE.TXT file.



You will only see this file if thread palette information was stored with the design.

*You see thread palette information.*

- 5 To view display information on the thread colors of the first palette, click the Color Information property page.

## Mass-loading Designs from Directories

The Mass Load command lets you load all your designs from various storage media (such as hard drives or CDs) into the Librarian database. Typically, when you load designs to a database using Mass Load, you choose a mapping method to automatically create links to ABC Groups. It is a good idea to think about your grouping strategy before you mass load designs. For more information on grouping strategies, see "Grouping strategies". To create ABC Groups, see "Adding a new A Group", "Adding a new B Group", and "Adding a new C Group".

Mapping associates a directory or set of directories with ABC Groups in the database. Once a mapping has been defined for a set of directories, designs will be linked to the associated ABC Groups when you use the Mass Load command. You have three mapping choices:

- Create a new mapping for a set of directories.
- Use a previously defined mapping for a set of directories.
- Use directory names so that a new A Group is automatically created and named based on the name of last sub-directory in the path name. If the A Group that matches the name of the last sub-directory already exists, the designs are simply linked to this corresponding A Group.

Suppose that one person, a Librarian database administrator, is responsible for mass loading designs each day. Twenty different designers create and store designs to a unique directory on their networked computers. At the end of the day, the database administrator mass loads the designs to the design databases. The administrator uses a previously defined mapping and rejects duplicate files. As a result, all the new designs are linked to the correct ABC Groups, based on the saved mapping name. The previously defined mapping saves time because the administrator does not have to create links to the ABC Groups each time she mass loads designs from the same directories to the database.

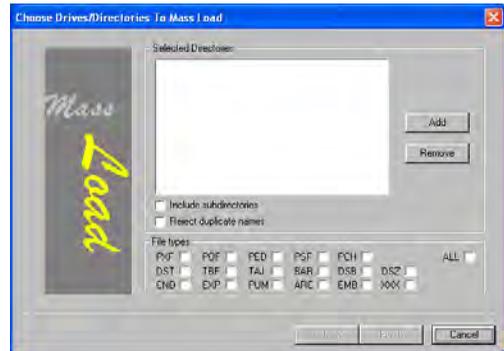


If you use a version of the Passport Design Library (PDL) that is older than version 6.08, you need to convert the PDL designs before you load them into the Librarian database.

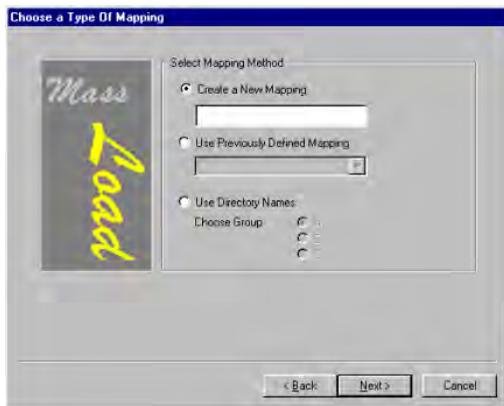
## To mass load designs from directories:

- 1 Choose Librarian, and then choose Mass Load.

*You see the Choose Drive/Directories To Mass Load window.*



- 2 To have all the designs in the sub-directories stored in Librarian when mass loading, select Include sub-directories.
- 3 To not store designs with duplicate names when mass loading designs, select Reject duplicate names.
- 4 Under File types, select the file types that you plan to load. Only select All if you know that no duplicate PED or PSF files exist. A PSF file is automatically generated for all mass loaded PED files.
- 5 Click Add.  
*You see the Open dialog box.*
- 6 Open the directory you want to add.
- 7 Select a design.
- 8 Click Open.  
*You see the directory in the Selected Directories list.*
- 9 Repeat steps 3 to 6 until all the directories that you want the mass load from appear in the Selected Directories list.
- 10 Click Next.  
*You see the Choose a Type of Mapping window.*



- 11 Do one of the following:
  - ♦ If you need to create a new mapping for the selected directories, select Create a New Mapping and enter a name for the new mapping. Click Next. Go to step 12.
  - ♦ If you want to use a previously saved mapping for the selected directories, select Use Previously Defined Mapping. Then, select the mapping name from the list. Click Next. Go to step 16.
  - ♦ If you want to name the A Groups to match the design directory, select Use Directory Names. The A Group name will be the same as the name of the last sub-directory. Click Next. Go to step 16.
- 12 From the Map Directories To Groups window, select a directory from the list. If the directory is linked to an A Group, you see the name in the ABC Group Name box.
- 13 To create or change a link, click Create Link.  
*You see the ABC Groups dialog box.*
- 14 Choose the Group to which you want to map the selected directory.
- 15 Click OK.
- 16 Repeat steps 10 to 13 for the other directories that you want to map.

- 17 To save the mapping name (and the associated ABC Group links for this set of directories), click Save Mapping.

*The next time you mass load designs, you see the mapping name in the previously defined mapping list.*

- 18 Click Finish.

## Scanning and Rebuilding a Design

You use the Scan and Rebuild command when you have a corrupted file you want to fix. This command looks (scans) for the corrupt file and rebuilds it.

### To scan and rebuild a design:

- 1 Choose Librarian—Scan/Rebuild.  
*You see the Scan & Rebuild dialog.*
- 2 Click the General property page.
- 3 Enter the Design ID for the design you want to scan and rebuild.
- 4 In the Rebuild Options area, select one or more of the following options:
  - ♦ Rebuild Stitch Data
  - ♦ Enable Customer Name Update



If the Enable Customer Name Update option is not selected, all customer names in the design file will be added to the Librarian customer name field.

- ♦ Overwrite Old Customer Names
- 5 Make any other changes on the General property page as necessary.
  - 6 To change other settings, click other property pages and make necessary changes.
  - 7 Click OK.  
*You see the Selective Scan & Rebuild dialog.*

- 8 Click Yes to proceed with rebuilding the design.

*Your design is rebuilt.*

## Rebuilding Design Icons

Use Rebuild Icons when you want to rebuild icons from older versions of Tajima DG16 by Pulse.

### To rebuild icons:

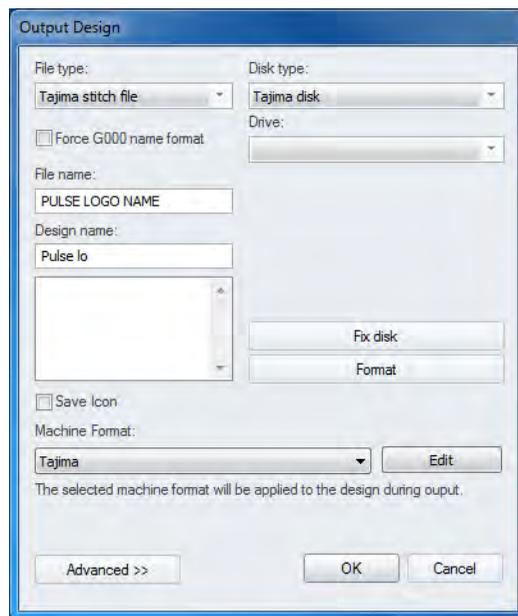
- 1 Choose Librarian—Rebuild Icons.  
*You see the Scan & Rebuild dialog.*
- 2 Enter the Design ID for the design you want to scan and rebuild.
- 3 Click OK.  
*You see the Selective Scan & Rebuild dialog.*
- 4 Click Yes.  
*Your design icon is rebuilt.*

## Exporting a Design to Floppy Disk or Hard Drive

You can export a design to floppy disk or hard drive from the Database View window.

### To export to floppy disk:

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon.  
*You see a shortcut menu.*
- 3 Choose Output—Export to floppy from the menu.  
*You see the Output Design dialog.*



- 4 In the File Type list, select the stitch file type of the downloaded design.
- 5 In the Disk type list, select the type of embroidery disk in the drive.
- 6 In the File Name box, enter the desired name of the output file.
- 7 In the Drive list, select the drive where you want to output the design.
- 8 In the Design name box, enter the design name you want to appear on the embroidery machine. To use an existing design name, select the design you want to replace from the list of designs stored on your disk.
- 9 To save icon files for Tajima Stitch File (\*.DST), Broaden Stitch File (\*.DSB), Tajima TBF File (\*.TBF) or Zangs/ZSK Stitch File (\*.DSZ) formats, select Save Icon.

- 10** To fix a Tajima disk created on an older embroidery system, click Fix Disk.



Fix Disk is for Tajima disks only. You may damage other disk types if you use Fix Disk.

- 11** To format the disk in the disk drive, click Format.
- 12** In the Machine Format list, select the machine format you want applied to the design during output.
- 13** To make changes to machine format properties and settings, click Edit.



Only advanced users should modify machine format properties. For more information on changing machine format properties and settings, see "Using Machine Formats".

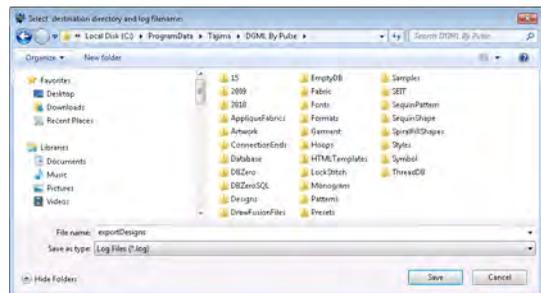
- 14** To make changes to advanced settings, click Advanced. Do one or more of the following and click OK:

To do this	Do this
To make sure that the design fits in the hoop by moving the needle around the outside of the design, you should trace the design.	Select Trace Design
To map commands for older embroidery machines that do not have particular commands available.	Select Map commands
To create an upside-down copy of the design.	Select Activate Quick Change and enter the distance in the Vertical Move box
Rotates the design at the specified angle.	Enter a value for Rotate angle
Flip the design horizontally	Select Mirror X

To do this	Do this
Flip the design vertically	Select Mirror Y
Turn the design upside-down	Select Mirror X and Mirror Y
Scale the design horizontally	Enter a value for Scale X
Scale the design vertically	Enter a value for Scale Y
Save your Advanced settings	Click Save Settings

**To export to hard drive (disk):**

- 1 Search for a design.
- 2 In the Database View window, right-click the design icon.  
*You see a shortcut menu.*
- 3 Choose Output—Export to disk from the menu and select one of the following:
  - ◆ Outlines (PXF)
  - ◆ Stitches (PSF)
  - ◆ Tajima (DST)*You see the "Select destination..." dialog.*



- 4 In the Save in list, browse to the location you want to export your file.
- 5 In the File Name box, enter the name of the log file.
- 6 Select Open as read-only if you want your design to have read-only access.
- 7 Click Save.

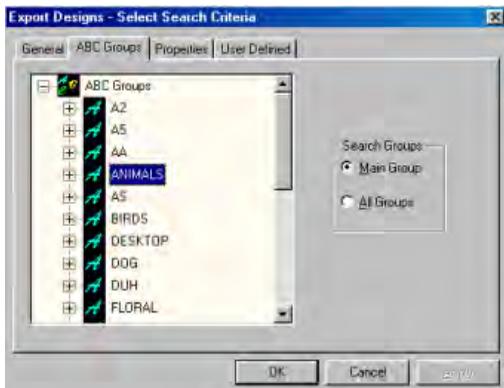
## Exporting a design to a Pulse Stitch file (\*.PSF)

You can export designs to \*.PSF using the Export PSF command. You can also export specific groups of designs.

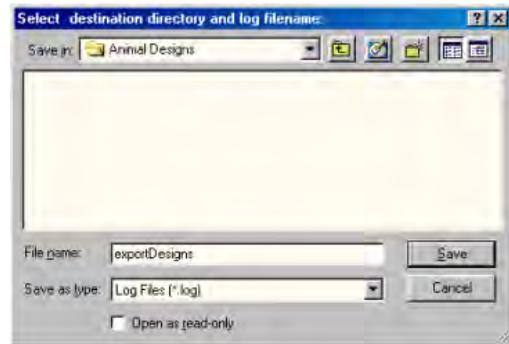
This procedure shows you how to export the designs from an ABC group.

### To export designs:

- 1 Choose Librarian—Export PSF.  
*You see the Export Designs — Select Search Criteria dialog.*
- 2 Click the ABC Groups property page.



- 3 Click a group and then click OK.  
*You see the Select destination directory and log filename dialog.*
- 4 Click on the folder you want to export the designs to.  
*You can export them to an existing folder or create a new folder for the designs.*



- 5 Click Save.  
*You see the Exporting Designs in progress dialog. The designs are now located in the folder so you can use them.*

## Logging off the Librarian Enterprise Server

When you are finished using all the design databases, you should log off the Librarian Enterprise Server.

### To log off the Librarian Enterprise Server:

- Choose Librarian—Logoff.

## Working with Artwork Designs

Librarian allows you to store artwork designs separately from stitch files. This capability is particularly useful for storing master artwork needed for a variety of purposes, such as backdrops for embroidery designs and screenprinting or imprinting on mugs and pens. Stitch files and artwork files can still be stored in the same Librarian database. You can do many of the same tasks with artwork designs as you can with stitch files, such as search, open, export, email or mass load artwork designs.

## Searching for artwork designs in a Librarian database

Using Tajima DG16 by Pulse, you can search for artwork designs stored in the Librarian databases. Typically, artwork designs are saved and grouped. You can add additional information, otherwise known as design properties, to artwork to help you find them. In Tajima DG16 by Pulse, you enter search criteria and all the artwork designs that match the search criteria will be displayed.



Artwork design and stitch file searches must be handled separately. You can not search for both of these designs as part of the same search.

You can search for artwork designs using broad or specific criteria. For example, if you want to find a certain artwork design containing a rose, you may search Group A: Floral or Group B: Roses. More artwork will appear when you use Group A: Floral since this group is broad. It could include several B Groups, such as Roses, Tulips, Daisies, and Arrangements. For more information on grouping strategies, see "Grouping strategies". To create ABC Groups, see "Adding a new A Group", "Adding a new B Group", and "Adding a new C Group". When you use more extensive and specific search criteria, your search results are more refined.

If you are unsure of the exact artwork properties, you can use advanced search syntax or advanced searching techniques to help you find certain artwork.



You can search for artwork designs that meet certain criteria. If you do not know exact artwork properties, such as the Design ID, search using Groups or use advanced search syntax.

### To search for artwork:

- 1 Choose Librarian—Search.  
*You see the Select Search Criteria property pages.*

- 2 Click the General property page.
- 3 In the Data list, select Artwork Design.



When Artwork Design is selected from the Data list, the fields in the Properties property page change according to artwork specific attributes.

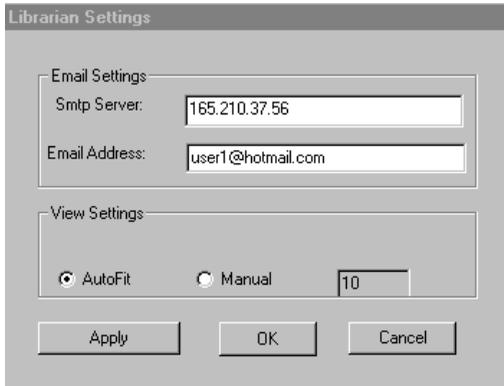
- 4 Enter the search criteria in one or more of the following property pages: General, ABC Groups, Properties, and User Defined.
- 5 Click OK.

*You see a selection of artwork designs that meet the search criteria in a Database View*

window. Now you can open the artwork design or change its properties.

You see only 12 designs at a time in the Database View Window. To view more designs, click the arrow at the top of the window.

You can also use the View Settings options under Librarian Settings to specify the number of designs you would like to view in the Database View window. Select Manual to choose the number of designs you want to view or select AutoFit for the software to determine the number.

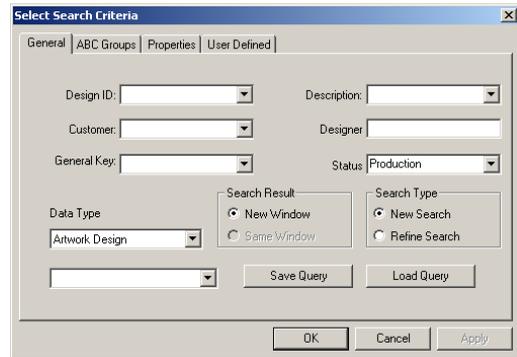


## Saving a query for artwork designs

You can save the search criteria that you enter to search for an artwork design or a group of artwork designs, and then use it the next time you search for the same artwork designs or artwork designs that have similar properties.

### To save a query:

- 1 Choose Librarian—Search.  
*You see the Select Search Criteria property pages.*



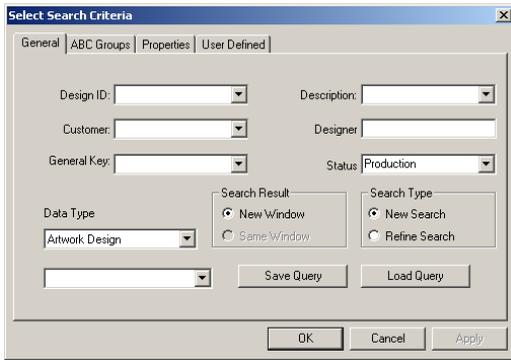
- 2 Click a property page to access the available artwork design property categories.
- 3 Enter search criteria on each of the property pages.
- 4 Click the General property page.
- 5 In the box beside Save Query, enter a name for the query.
- 6 Click Save Query.

## Using a saved query to find artwork designs

The search criteria that you enter to search for an artwork design or a group of artwork designs can be saved and then used the next time you search for the same artwork designs or the ones that have similar properties

### To use a saved query to find artwork designs:

- 1 Choose Librarian—Search.  
*You see the Select Search Criteria property pages.*



- 2 In the box beside Save Query, select the query that you want to use from the list of previously saved queries.
- 3 Click Load Query.  
*You see the search criteria for that query.*
- 4 Click OK.

## Advanced searching techniques for artwork designs

The Select Search Criteria dialog box offers advanced searching features that include: Search Result and Search Type in the General property page and Search Groups in the ABC Groups property page. Primarily these features are used to refine a query based on the previous one. You can also see some different combinations of these advanced search features.

## Advanced searching examples for artwork designs

There are various ways that you can use the advanced searching features.

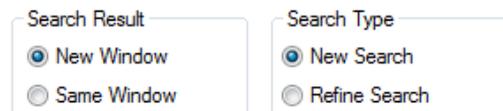
The following search produces a new set of artwork designs and a new Database View window does not appear.



The following search provides a subset from the first search. The second set of artwork designs should refine criteria from the first set.



The following search adds a set of artwork designs to a new Database View window. The artwork designs reflect criteria from the first and second set of search criteria.



The following search adds a set of designs to a new Database View window. The following search produces a new set of designs and a new Database View window appears.



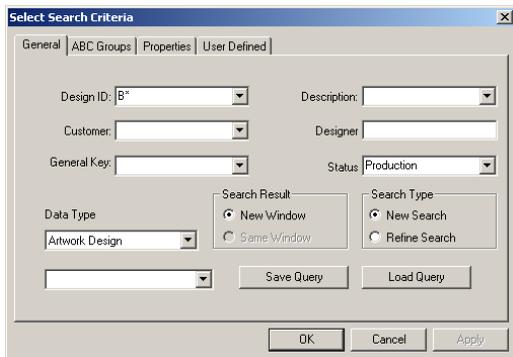
## Using advanced search syntax for artwork designs

You can enter the special characters in many of the search criteria boxes on each of the property pages, excluding the Groups boxes. Use numeric symbols (< and > and =) in numeric boxes and wildcard characters (\* and ?) in text boxes. This table explains how special characters can help you find an artwork design or a group of artwork designs.

In this example, you enter the information in the Design ID box on the General property page.

If you enter:	You find designs:	Example:
ANT	Named ANT	Ant
B*	Starting with the letter B	B, Bat, Beetle, Baseball
*T	Ending with the letter T	T, Cat, Kit, Street
*Z*	With the letter Z in it	Z, Zebra, Zoo, Zigzag
T????	With five letters and starting with the letter T	Truck, Trees, Trunk

Here are the results for a B\* search:

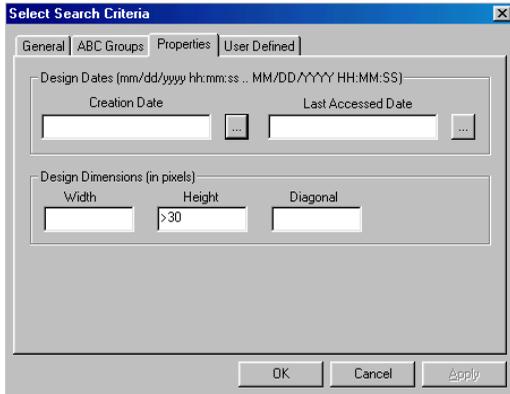


In this example, you enter information for the Height under the Design Dimensions on the Properties property page.

In the Properties property page, you can also enter the date the design was created and last accessed under the Design Dates area, as well as the width and diagonal in pixels design dimensions.

If you enter:	You find artwork designs:	Example:
28	With a height of exactly 28	28
>30	With a height greater than 30	31, 32, 33, etc.
<20	With a height less than 20	19, 18, 17, etc.
>10<25	With a height between 11 and 24	11, 12, 13...24
>=10	With a height equal to or greater than 10	10, 11, 12...200

Here are the results for a search of >30 (pixels):



## Opening an artwork design as an image

You can search for an artwork design and load it into Tajima DG16 by Pulse as a backdrop, such as Bitmap or JPEG files.



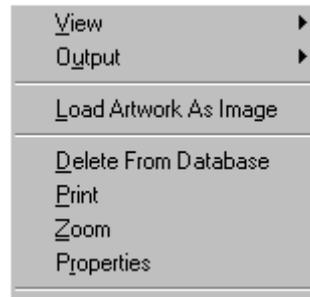
Any given piece of artwork can only be opened as an image or a vector, but it can not be opened as both. The type of artwork design determines how you can open it.

### To open an artwork design from the Database View window:

- 1 Search for a design.  
For more information, see the "Searching for artwork designs in a librarian database" section.  
*You see the Database View window.*

- 2 In the Database View window, right-click the artwork design icon to gain access to that artwork.

*You see a shortcut menu.*



You can double-click any design to open the artwork design.

- 3 Choose Load Artwork As Image to load the artwork design directly into Tajima DG16 by Pulse from Librarian.

*The artwork design loads directly into the Tajima DG16 by Pulse workspace as a background image.*

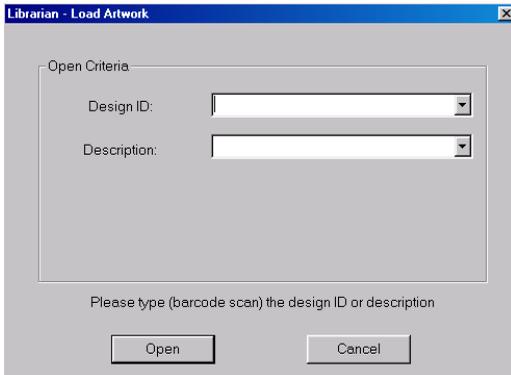
**To open an artwork design from Tajima DG16 by Pulse:**

- 1 Select the New  tool to open a new design window. For more information, see "Creating new designs".  
*You see a new design window.*
- 2 Choose Image—Load to load an image.  
*You see the Open Image dialog.*
- 3 Click Librarian.



The Librarian button is enabled in the Open Image dialog only if you are connected to a Librarian database. You must logon and open the Librarian database. Please connect to a Librarian database if the Librarian button is not displayed in the dialog.

*You see the Librarian-Load Artwork dialog.*



- 4 Do one of the following:
  - ♦ In the Design ID box, enter the name of the artwork design.
  - ♦ (Optional) In the Description box, enter the description of the artwork design.
- 5 Click Open.  
*You see the artwork design in the design workspace.*

**Opening an artwork design as a vector file**

You can search for an artwork design and load it into Tajima DG16 by Pulse as a vector file.



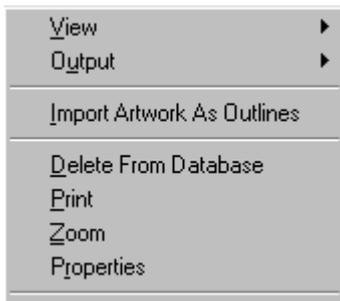
Any given piece of artwork can only be opened as an image or a vector, but it can not be opened as both. The type of artwork design determines how you can open it.

**To open an artwork design from the Database View window:**

- 1 Search for a design.  
 For more information, see the "Searching for artwork designs in a librarian database" section.  
*You see the Database View window.*



- 2 In the Database View window, right-click the artwork design icon to gain access to that artwork.  
*You see a shortcut menu.*



You can double-click any design to open the artwork design.

- 3 Choose Load Artwork As Outlines to import the artwork design as outlines into Tajima DG16 by Pulse from Librarian.

*You see the Load Artwork dialog.*

- 4 Click Open.
- 5 Left-click to place the artwork on the design workspace. Each time you click, you place another copy of the artwork.
- 6 Right-click to stop importing. *You see the artwork designs in the design workspace. The artwork will be imported into Tajima DG16 by Pulse as a outlines.*
- 7 To apply stitch types to artwork designs, do the following:

- ◆ Select Window—Segment List. *You see the Segment List (Sequence View) dialog.*
- ◆ In the Segment List (Sequence View) dialog, select one of the view sequences available.
- ◆ Select the artwork you want to change. Artwork designs imported as outlines are called Art Segment in the Segment List (Sequence View) dialog.
- ◆ Press = on your keyboard and select the stitch type you want applied to your artwork design from the shortcut menu.

*You see the artwork design altered accordingly.*

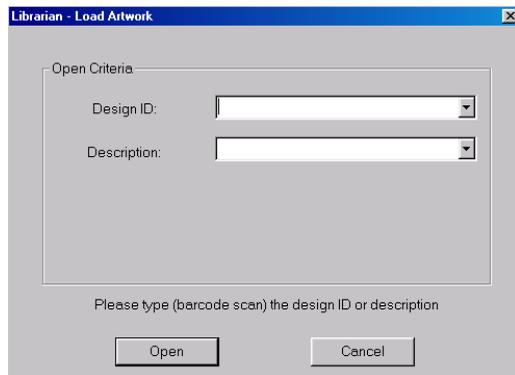
**To open an artwork design from Tajima DG16 by Pulse:**

- 1 Select the New  tool to open a new design window. *You see a new design window.*
- 2 In the Artwork toolbar, click the Import Artwork  tool. *You see the Load Artwork dialog.*
- 3 Click Librarian.



The Librarian button is enabled in the Load Artwork dialog only if you are connected to a Librarian database. You must logon and open the Librarian database. Please connect to a Librarian database if the Librarian button is not displayed in the dialog.

*You see the Librarian-Load Artwork dialog.*



- 4 Do one of the following:
  - ◆ In the Design ID box, enter the name of the artwork design.
  - ◆ (Optional) In the Description box, enter the description of the artwork design.
- 5 Click Open.

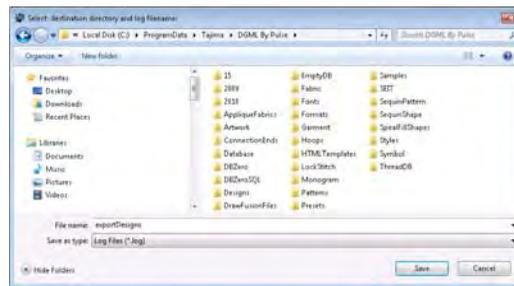
- 6 Left-click to place the artwork on the design workspace.  
Each time you click, you place another copy of the artwork.
- 7 Right-click to stop importing.  
*You see the artwork designs in the design workspace. The artwork will be imported into Tajima DG16 by Pulse as a outlines.*
- 8 To apply stitch types to artwork designs, do the following:
  - ◆ Select Window—Segment List.  
*You see the Segment List (Sequence View) dialog.*
  - ◆ In the Segment List (Sequence View) dialog, select one of the views available.
  - ◆ Select the artwork you want to change. Artwork designs imported as outlines are called Art Segment in the Segment List (Sequence View) dialog.
  - ◆ Press = on your keyboard and select the stitch type you want applied to your artwork design from the shortcut menu.  
*You see the artwork design altered accordingly.*

## Exporting an artwork design to your hard drive

You can export an artwork design to your hard drive from the Database View window.

### To export to your hard drive (disk):

- 1 Search for an artwork design.
- 2 In the Database View window, right-click the artwork design icon.  
*You see a shortcut menu.*
- 3 Choose Output—Export to disk—Artwork from the menu.  
*You see the following dialog box.*



- 4 In the Save in list, browse to the location you want to export your file.
- 5 In the File Name box, enter the name of the log file.
- 6 Click Save.

## Emailing artwork designs

Tajima DG16 by Pulse now allows you to send artwork stored in the Librarian database to others via email using Tajima DG16 by Pulse's built in email capabilities. Before you can use the email capabilities in Librarian, you must first configure the email settings. In order to use the email function in Librarian, your computer must be connected to the Internet.

### To configure your email settings:



You should contact your network administrator or Internet service provider for the correct settings for your system.

- 1 Choose Librarian—Librarian Settings...  
*You see the Librarian Settings dialog box.*
- 2 Under Email Settings do the following:
  - ◆ In the SmtP Server box, enter the name of the server.
  - ◆ In the Email Address box, enter your email address.
- 3 Click Apply.

**4** Click OK.

*You are now ready to send designs from Librarian to others via email.*

**To send artwork via email:**

- 1** Search for the artwork you want to email.
- 2** Hold down CTRL and click the icons of the artwork you want to email. You can also hold down SHIFT and click the last design icon in a row of multiple design icons.

- 3** Right-click over one of the selected artwork.

*You see a shortcut menu.*

- 4** Choose Output—Email from the menu.

*You see the Librarian Email page.*

- 5** In the From box, you see the address you entered in the Librarian Setting box.

- 6** In the To box, enter the email address of the person you want to send artwork files.

- 7** In the Subject box, enter a subject for the email.

- 8** In the main box, enter a message.

- 9** In the Artwork Data area, select the artwork design type you want to email: images or vectors.

*The artwork designs you selected appear in the Attachments box.*

- 10** Click Send.

*Your email is sent.*

## Mass loading artwork designs from directories

The Mass Load Artwork command lets you load all your artwork designs from various storage media, such as a hard drive, CD-ROM, or floppy disks into the Librarian database. Typically, when you load artwork to a database using Mass Load Artwork, you choose a mapping method to automatically create links to ABC Groups. It is a good idea

to think about your grouping strategy before you mass load designs. For more information on grouping strategies, see "Grouping strategies". To create ABC Groups, see "Adding a new A Group", "Adding a new B Group", and "Adding a new C Group".

Mapping associates a directory or set of directories with ABC Groups in the database. Once a mapping has been defined for a set of directories, artwork designs will be linked to the associated ABC Groups when you use the Mass Load Artwork command. You have three mapping choices:

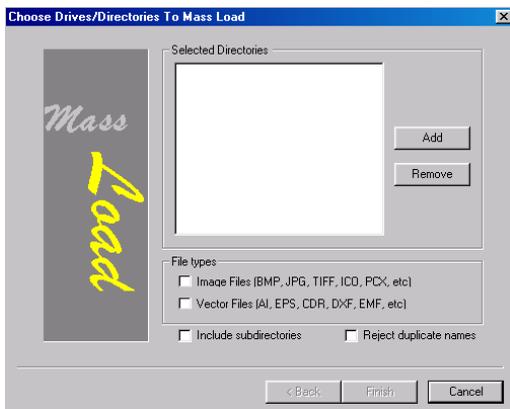
- Create a new mapping for a set of directories.
- Use a previously defined mapping for a set of directories.
- Use directory names so that a new A Group is automatically created and named based on the name of last sub-directory in the path name. If the A Group that matches the name of the last sub-directory already exists, the designs are simply linked to this corresponding A Group.

Suppose that one person, a Librarian database administrator, is responsible for mass loading artwork each day. Twenty different designers create and store artwork to a unique directory on their networked computers. At the end of the day, the database administrator mass loads the artwork to the design databases. The administrator uses a previously defined mapping and rejects duplicate files. As a result, all the new artwork are linked to the correct ABC Groups, based on the saved mapping name. The previously defined mapping saves time because the administrator does not have to create links to

the ABC Groups each time she mass loads artwork from the same directories to the database.

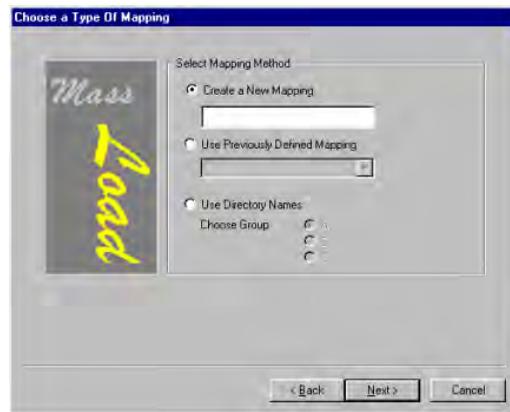
**To mass load artwork designs from directories:**

- 1 Choose Librarian—Mass Load Artwork.  
*You see the Choose Drive/Directories To Mass Load window.*



- 2 Under File types, select one or more of the following file types that you plan to load:
  - ◆ Image Files (BMP, JPG, TIFF, ICO, PCX, etc.)
  - ◆ Vector Files (AI, EPS, CDR, DXF, EMF, etc.)
- 3 To have all the artwork designs in the subdirectories stored when mass loading, select Include subdirectories.
- 4 To not store artwork with duplicate names when mass loading designs, select Reject duplicate names.
- 5 Click Add.  
*You see the Open dialog box.*
- 6 Open the directory you want to add.
- 7 Select the artwork you want.
- 8 Click Open.  
*You see the directory in the Selected Directories list.*

- 9 Repeat steps 3 to 6 until all the directories that you want the mass load from appear in the Selected Directories list.
- 10 Click Next.  
*You see the Choose a Type of Mapping window.*



- 11 Do one of the following:
  - ◆ If you need to create a new mapping for the selected directories, select Create a New Mapping and enter a name for the new mapping. Click Next. Go to step 10.
  - ◆ If you want to use a previously saved mapping for the selected directories, select Use Previously Defined Mapping. Then, select the mapping name from the list. Click Next. Go to step 16.
  - ◆ If you want to name the A Groups to match the design directory, select Use Directory Names. The A Group name will be the same as the name of the last sub-directory. Click Next. Go to step 16.
- 12 From the Map Directories To Groups window, select a directory from the list. If the directory is linked to an A Group, you see the name in the ABC Group Name box.

- 13 To create or change a link, click Create Link.

*You see the ABC Groups dialog box.*

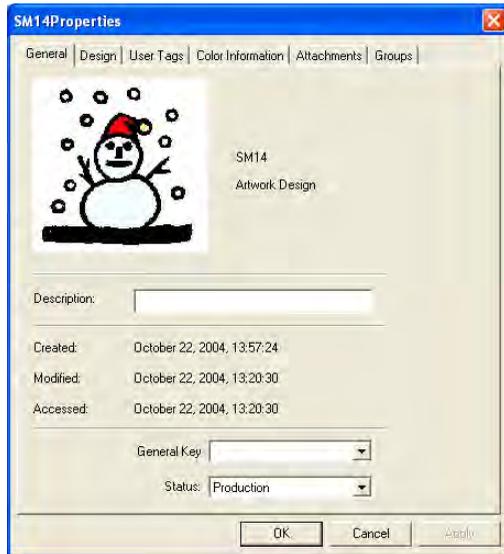
- 14 Choose the Group to which you want to map the selected directory.
- 15 Click OK.
- 16 Repeat steps 10 to 13 for the other directories that you want to map.
- 17 To save the mapping name (and the associated ABC Group links for this set of directories), click Save Mapping.  
*The next time you mass load artwork designs, you see the mapping name in the previously defined mapping list.*
- 18 Click Finish.

## Modifying Artwork Design Properties

You can view the properties of an artwork design by opening the Design Properties pages.

### To view the artwork Design Properties pages:

- 1 Search for an artwork design.
- 2 Right-click the artwork design icon and choose Properties from the menu.  
*You see the Properties dialog.*



- 3 Click the appropriate property pages to view and modify artwork design property information.



# CHAPTER 20

## Using Data Collection

Tajima DG16 by Pulse lets you collect and view data that is sent from most newer Tajima embroidery machines. After you have installed Tajima DG16 by Pulse you need to configure the software for Data Collection. You can also view and save collected summary data.

*Topics covered in this chapter:*

- How to configure the data collection feature.
- Viewing the status of the embroidery machine in real time.
- Viewing and saving the summary data.

# Configuring the Software for Data Collection

After you have installed Tajima DG16 by Pulse you need to configure the software for data collection, which first involves configuring the location of design spoolers.

## Configuring the Location of Design Spoolers

A Design Spooler manages the delivery of designs to embroidery machines using cables. Design Spoolers make it easy to connect to embroidery machines.

Tajima DG16 by Pulse can access multiple spoolers over a network or always use the spooler running on the local computer. By default you will have access to the machines connected directly to your computer.

### To configure the location of design spoolers:

- 1 Choose Tools—Configuration—Spooler Settings.  
*You see Design Spooler Settings dialog.*
- 2 From the Design Spooler Location list, select one of the following options:
  - ◆ **Always use the spooler running on local computer.** This setting allows you to only use the embroidery machines connected directly to your computer.
  - ◆ Locate all spoolers on the Network. This setting allows you to connect to embroidery machines available on your network.
- 3 In the Design Spooler Settings area, complete the following:
  - ◆ From the Design Spooler Host list, select a design spooler. The

configuration settings for the selected spooler will be displayed and you can make changes accordingly.

- ◆ From the Queue Type list, select one of the following:
  - ◆ **Multiple** (Default). Create a separate design queue for each embroidery machine.
  - ◆ **Single**. Create one queue for all the embroidery machines connected to this design spooler. This option is only available to machines that support downloading or pulling a design file from the machine's control panel (i.e. LAN or multi-directional serial machines).
- ◆ From the LAN Machine Support list, select one of the following ways to control how to communicate with LAN enabled embroidery machines:
  - ◆ Disabled.
  - ◆ Enabled.



Only one design spooler can have this setting enabled at one time.

- ◆ From the Data Collection Database box, browse to the location where reporting data is created.
  - ◆ From the Template Directory box, browse to the location that contains text template files. These templates are used on the PDA based Pulse software.
- 4 To save your changes, click Apply.
  - 5 To close, click OK.

## Viewing Machine Status

You can view embroidery machine information in real time, or collect data for reporting. Before viewing embroidery machine information, your machine must be setup to send data to your software.

## Receiving Data from your Embroidery Machine

The following steps are for a two-head Tajima machine. Check your embroidery machine's documentation to find out how to set the machine to network.

### To receive data from your embroidery machine:

- 1 Make sure your embroidery machine is set to network so two-way information can be communicated from the machine to the software and vice-versa.



What you select depends on the Tajima model you have.

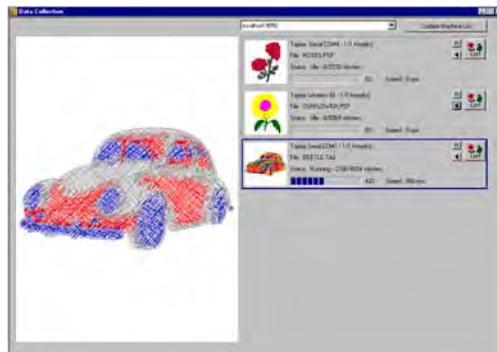
- 2 Press F4 on the Tajima control panel. NW is displayed.
- 3 Turn the dial and set it to "0" to enable the network connection.
- 4 Open a stitch design in Tajima DG16 by Pulse.
- 5 To output it to the machine, choose File—Machine Connection—Output to Machine. See "Outputting a design to an embroidery machine or disk."
- 6 From the Designs to Output area, click to the left of the stitch design name and a red checkmark will appear.
- 7 From the Embroidery Machines area, click to the left of the machine name and a red checkmark will appear.

- 8 Click Send.  
*You see a dialog appear showing the status of the design output. Click OK to close the dialog.*
- 9 Go back to your machine's control panel.
- 10 Press menu key A on the control pad until number 4 is displayed.



These instructions are for embroidery machines connected to serial ports.

- 11 Select Tajima tape format and press SET twice.  
When you see M:- the "-" means the design is loading. When the design finishes downloading, the dash becomes a number.
- 12 Go back to Tajima DG16 by Pulse.
- 13 Close the progress dialog, if not already closed, when the design output is complete.
- 14 Choose File—Machine Connection—Machine Status.  
*You see the Data Collection window.*



*The Data Collection window gives you information such as the machine's name, design information, the machine's status (running or not running), the machine's speed, and the current stitch.*

- 15 From the list at the top, select the Design Spooler connected to the machines you want to view.

- 16** To update the Machine list, click Update Machine List.
- 17** Select the machine whose status you want to view.

*In the main Data Collection window, you can view the design sew out in the thread colors you selected for your design. The design is gray and as it sews the correct colors appear. For DSTs, a default palette is used.*



You can have a maximum of 10 embroidery machines configured for Data Collection. For each embroidery machine, you need to have a serial port connected.

- 18** Close the window when you are satisfied with the machine and design status.

## Viewing the Status of your Embroidery Machine

Machine Status is a feature developed especially for newer model Tajima embroidery machines. This feature allows you to see on-screen the status of a configured embroidery machine and to automatically associate downloaded files to the machine. Use the  arrow to change the associated file.



When you select the manufacturer and model of your embroidery machine to configure the software, make sure you select the Tajima Serial Connection option to set up the port properly. The port must be set up so you can use Machine Status.

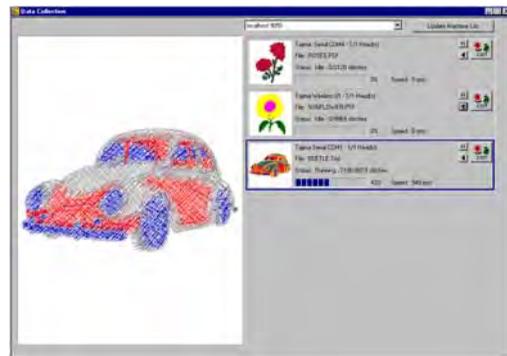
The Data Collection window gives you information such as the machine's name, design information, the machine's status (i.e. running, not running, thread breaks, etc.), the machine's speed, and the current stitch. You can view a list of published designs for all configured embroidery machines. For \*.TBF and \*.PSF files, the Data Collection window

lets you watch the design sew out in the thread colors you selected for your design. The design is gray and as it sews, the correct colors appear. Other file formats use the default color palette.

### To view the current status of your embroidery machines:

- 1 Choose File—Machine Connection—Machine Status.

*You see the Data Collection window.*



- 2 To update your entire embroidery machine list, click Update Machine List.
- 3 Select the installed embroidery machine you want to view.

*You see the following machine status information: machine name, design file name, current machine status, and the sewing speed of the design.*

*In the main Data Collection window, you can view \*.PSF design files sew out in the thread colors you selected for your design. The design is gray and as it sews, the correct colors appear. For \*.DST and other design files, a default palette is used.*

- 4 To choose the number of heads you want to use for the design, click the O button.

*You see the Data Collection dialog.*



- 5 In the Enter number of active heads box, enter how many heads you want to use from the selected embroidery machine and click OK.
- 6 To view the list of published design for the selected machine, click List.
- 7 Close the Data Collection window when you are satisfied with the machine and design status.

## Viewing and Saving Collected Machine Data

Tajima DG16 by Pulse has a set of reporting tools that allow you to view and save data from embroidery machines connected to the design spooler. You can select from a number of different report types, depending on the information that you want to see; you can also select the time frame for which you want the data collected.

## Reporting Machine Data – Backup and Reset

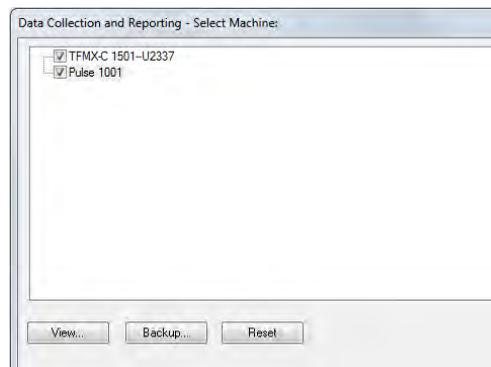
The reporting ability of Tajima DG16 by Pulse has been enhanced to give you more options for selecting the information that goes into your reports. An existing reports database will need to be reset to be able to use these reporting enhancements.

Before resetting, it is recommended that you create a backup of your current database. This can be done through the Design Spooler

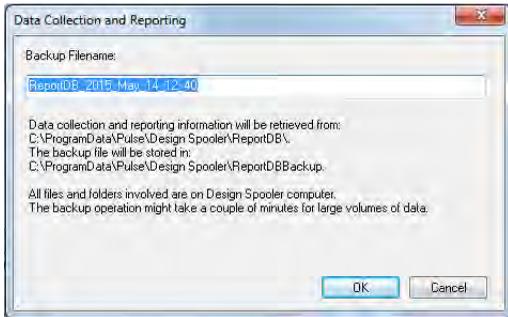
dialog. The backup will create a zip file containing all the data that has been collected in the reports database. The zip file will be automatically be given a default filename that includes the present date and time; however, this filename may be changed in the dialog to whatever you like.

### To backup and reset a machine reporting database:

- 1 Choose File—Machine Connection—View Reports  
*You see the Data Collection and Reporting window.*



- 2 Select the Design Spooler that you want to backup.
- 3 Press the Backup... button on the design spooler dialog.  
*You see a new Data Collection and Reporting window. The path shows where the database backup will be stored on your computer.*



- 4 Type a name in the Filename box, or keep the default filename, and click OK.  
*You see a notification that the backup process has been completed.*
- 5 Click OK
- 6 Press the Reset button in the Data Collection and Reporting window.

The backup process continues to run in the background after displaying the message that it is complete; if you try to do a reset before the backup has completely finished, you will see an error message indicating that the database could not be reset properly. Wait and try to do the Reset again.



## Viewing the Activity Database

You can view a report of the activity database. The activity database stores each event received from the embroidery machine.

If Data Collection is disabled in Tajima DG16 by Pulse, you will only retrieve previous activity database report information. To view updated report information, you must first enable Data Collection. Choose Tools—Configuration—Spooler Settings and select the local spooler as your design spooler host. From the Data Collection Database box, browse to the location where reporting data is created.



### To view an activity database report:

- 1 Choose File—Machine Connection—View Reports.

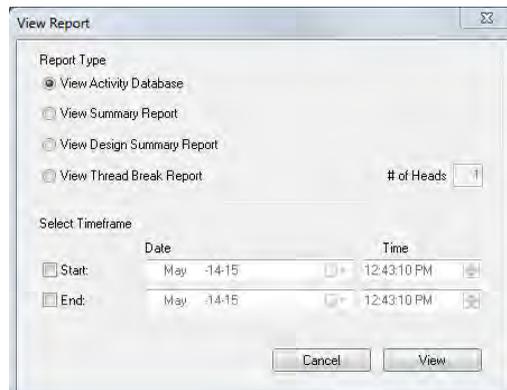
*You see the Select Machine dialog.*



- 2 To view reports for one embroidery machine, select an embroidery machine. To view reports for multiple embroidery machines on a design spooler, select a design spooler.

- 3 Click View.

*You see the View Report dialog.*



- 4 In the Report Type area, select View Activity Database.

5 In the Select Timeframe area, select the Start or End time periods for the Activity Database.



If you do not select the start and end time, the entire time frame will be displayed.

6 Click View.  
*You see your report. The activity database stores each event received from the machine.*

## Understanding the Activity Database

To understand your activity database, you should know what each of the column headings mean.

Certain reason codes (i.e. Needle Break, Load Frames or Shift Change) are associated with older Passport Boxes. Operators had the option to enter reason codes manually.



Depending on your machine configuration, you may view reason codes not listed in the table below.

Column Heading	What it means
Record #	The identification number stored for each activity.
Machine	The machine name.
Box	This option is ignored.
Reasons	This lists the Reason names and/or ID Numbers. Each Reason ID corresponds to a specific reason. The following lists what each Reason ID Number refers to: <ul style="list-style-type: none"> <li>• 0 = Box Running</li> <li>• 1 = No Reason</li> <li>• 2 = Thread Break</li> <li>• 3 = Needle Break</li> <li>• 4 = Design Change</li> <li>• 6 = Bobbin Change</li> <li>• 7 = Load Frames</li> <li>• 13 = Shift Change</li> <li>• 28 = Box Off</li> <li>• -1 = All Reasons</li> <li>• 90 = No Data</li> <li>• 29 = Passport Off</li> <li>• 30 = Passport Start</li> <li>• 31 = Sewout End</li> <li>• 32 = Null Sewout End</li> <li>• 33 = Machine Error Code</li> <li>• 34 = Stop Switch</li> <li>• 35 = Emergency Stop</li> <li>• 36 = Frame Stepping</li> <li>• 90 = No Data</li> </ul>
<b>Note:</b>	The No Reason code is caused by: user stops, frame out and communications, system or machine failures.
Head #	The number of machine needle heads running during the activity.
Date	The date the activity started.
Time	The time the activity started.
End Date	The date the activity ended.
End Time	The time the activity ended.
Duration	The total time span of the activity.
Design	The name of the design.

Column Heading	What it means
<b>Note:</b> The name of the design will be for the last design sent to the machine. You should always associate your designs.	
Stitches (all heads)	<p>The accumulated number of stitches sewn for a specific design. This number depends on whether the box is Stopped or Running.</p> <ul style="list-style-type: none"> <li>• A box that is Stopped records the total number of stitches sewn for the design so far.</li> <li>• A box that is Running records the number of stitches sewn for the specific time interval.</li> </ul> <p>The bracketed number (all heads) is the stitch count for all heads sewing out the design.</p>
<p><b>Note:</b> If one head from a group of running heads stops sewing the design, the All Heads number will continue to count the number of stitches sewn for the specified head. This All Heads number will include the stopped head's partial stitch count in its total as well.</p> <p>For example, an activity database entry of 2766 (3000) means that Design A has 2766 stitches and is sewing out on two heads. One of these heads stopped running after sewing 234 stitches for Design A. This stopped head made the total stitches sewn out, by all heads, increase to 3000 stitches.</p>	
Total (all heads)	<p>The total number of stitches in the associated design.</p> <p>The bracketed number (all heads) is the total number of stitches in the design multiplied by the number of running machine heads. This value only changes when you change the associated design, unless the stitches already sewn exceeds this value. If so, the value should change to match the current stitch count.</p>
<b>Note:</b> If you do not associate the design, this value will not be reported correctly.	
Operator	The Operator's number.
Heads	Number of heads running on the machine.

## Viewing Summary Report Data

You can view a summary of the data that has been collected.

If Data Collection is disabled, you will only retrieve previous summary report information. To view updated report information, you must first enable Data Collection.

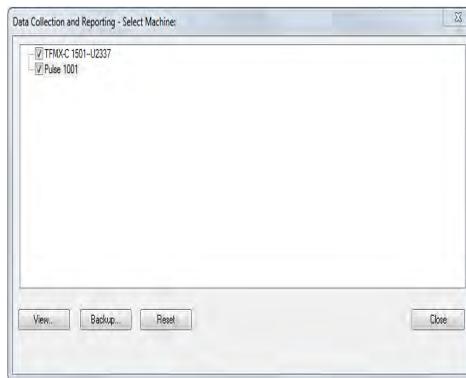


Choose Tools—Configuration—Spooler Settings and select the local spooler as your design spooler host. From the Data Collection Database box, browse to the location where reporting data is created.

### To view a summary

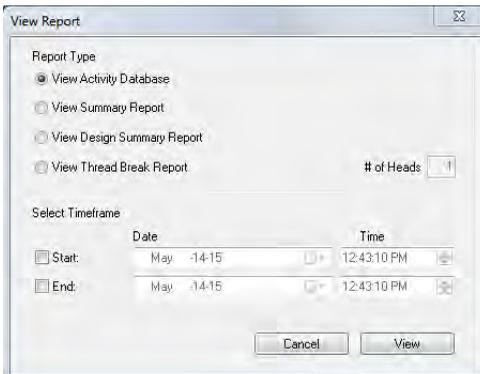
- 1 Choose File—Machine Connection—View Reports.

*You see the Select Machine dialog.*



- 2 To view reports for one embroidery machine, select an embroidery machine. To view reports for multiple embroidery machines on a design spooler, select a design spooler.
- 3 Click View.

*You see the View Report dialog.*



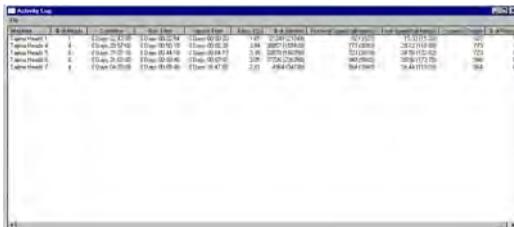
- 4 In the Report Type area, select View Summary Report.
- 5 In the Select Timeframe area, select the Start or End time periods for the summary you want to view.



If you do not select the start and end time, the entire time frame will be displayed.

- 6 Click View.

*You see your report. The summary report lets you see the number of heads, total downtime time, total running time, the ignored time where no data was received, the efficiency total number of stitches, the effective and actual machine speed, the total number of stitches and the total number of pieces.*



## Understanding the Summary Report Data

To understand the information shown in the summary of report data, you should know what each of the column headings mean.

Column Heading	What it means
Machine	The machine name.
# of Heads	The number of heads running on the machine.
Downtime	The length of time the specified machine stopped running (excluding ignore time).
Run Time	The length of time the specified machine was running.
Ignore Time	The total length of time the following reason codes occurred on the machine:
	<ul style="list-style-type: none"> <li>• Maintenance (11)</li> <li>• Box Off (28)</li> <li>• Passport Off (29)</li> <li>• Null Sewout End (32)</li> <li>• Sewout End (31)</li> </ul>
<b>Note:</b> Sewout End codes will only be added to the ignore time when no stitches are sewn following the previous Sewout End.	
Effic. (%)	The percentage of time the machine was running.  Effic. (%) = Run Time/(Run Time + Downtime)
# of Stitches (all heads)	The accumulated number of stitches sewn from the head. The bracketed number (all heads) is the stitch count from all heads sewing out designs.
<b>Note:</b> If one head from a group of running heads stops sewing, the All Heads number will continue to count the number of stitches sewn from the specified head. This All Heads number will include the stopped head's partial stitch count in its total as well.	

Column Heading	What it means
	For example, an activity database entry of 17858 (19759) means that 17858 stitches were sewn from a single head. 19759 stitches were sewn by all of the heads put together, including the stitch count from any head that stopped while sewing designs.
Running Speed (all heads)	The number of stitches sewn per minute on one head. The bracketed number (all heads) is the number of stitches sewn per minute on all heads sewing out designs.
Total Speed (all heads) in stitches per minute	Total speed = Total number of stitches sewn on machine / (Run Time + Down Time)  The bracketed number (all heads) is the total speed of all running heads.
<b>Note:</b> The time is listed as mm:ss. For example, 44:55 is 44 minutes and 55 seconds and not 44.55 minutes.	
Speed/Design in stitches per minute	Speed/Design = [# of stitches / # of Pieces] / Time in minutes  The average speed taken to sew out a design.
# of Pieces	The number of finished products produced during the specified period.

## Saving the Summary Data

You can save the summary data to a text file which can be imported into a spreadsheet.

### To save the summary data:

- In the summary window, choose File—Save.  
*You can save the information as a tab delimited or comma delimited text file.*

## Viewing the Design Summary Report Data

The Design Summary Report creates a table that displaying the Design Name, the total number of pieces sewn for this design, the number of thread breaks that happened while sewing out the design(s), and the average time that was taken for sewing out the design.

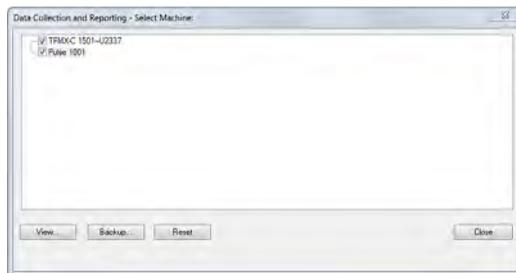
If Data Collection is disabled in Tajima DG16 by Pulse, you will only retrieve previous summary report information.

To view updated report information, you must first enable Data Collection. Choose Tools—Configuration—Spooler Settings and select the local spooler as your design spooler host. From the Data Collection Database box, browse to the location where reporting data is created.

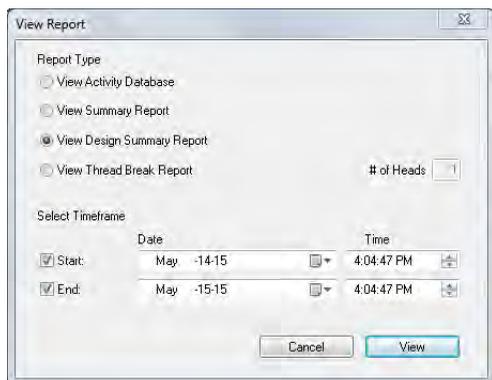


### To view a design summary report:

- Choose File—Machine Connection—View Reports.  
*You see the Select Machine dialog.*



- To view reports for one embroidery machine, select an embroidery machine. To view reports for multiple embroidery machines on a design spooler, select a design spooler.
- Click View.  
*You see the View Report dialog.*



- 4 In the Report Type area, select View Design Summary Report.
- 5 In the Select Timeframe area, select the Start or End time periods for the summary you want to view.



If you do not select the start and end time, the entire time frame will be displayed.

- 6 Click View.  
*You see the Design Report summary table.*

## Viewing the Thread Break Report Data

The Thread Break Report creates a table that shows you the machine name, the head number on which the thread break occurred, and the duration.

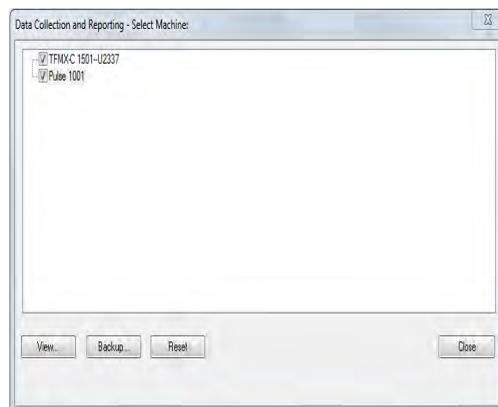


If Data Collection is disabled, you will only retrieve previous summary report information. To view updated report information, you must first enable Data Collection. Choose Tools—Configuration—Spooler Settings and select the local spooler as your design spooler host. From the Data Collection Database box, browse to the location where reporting data is created.

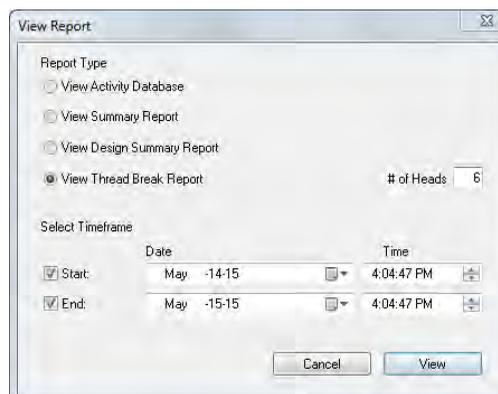
### To view a design summary report:

- 1 Choose File—Machine Connection—View Reports.

*You see the Data Collection and Reporting Select Machine dialog.*



- 2 To view reports for one embroidery machine, select an embroidery machine. To view reports for multiple embroidery machines on a design spooler, select a design spooler.
- 3 Click View.  
*You see the View Report dialog.*



- 4 In the Report Type area, select View Design Summary Report.

- In the Select Timeframe area, select the Start or End time periods for the summary you want to view.



If you do not select the start and end time, the entire time frame will be displayed.

- Click View.  
*You see the Thread Break Report table.*

## Quotation Estimator

The Quotation Estimator is a wizard that collects specific information about a design, and then calculates a detailed job estimate. It incorporates all the important design parameters, allows you to add pricing information, and then makes a printable sheet that you can send to the customer.



If at any time you need to change a setting that you have made, click the Back button on the Quotation Estimator Wizard wizard page to return to the previous page.

## Using the Quotation Estimator Wizard

### Step 1: Open the Quotation Estimator Wizard

- To open the Quotation Estimator Wizard, select Tools—Quotation Estimator Wizard from the menu bar.

### Step 2: Load a design

The design that you want to do the estimation on may be loaded into the Quotation Estimator Wizard in one of two ways.

- Do one of the following:
  - Enter the path to the design directly into the field on the dialog, or

- Use the Browse button to browse to the directory on your computer containing the design.

- Click Next to load the design into the Quotation Estimator Wizard, and continue on to the next step.

### Step 3: Enter the Design Statistics

The Quotation Estimator Wizard automatically includes the following information about the loaded embroidery design:

- Number of stitches
- Number of trims
- Number of color changes
- Number of stops.

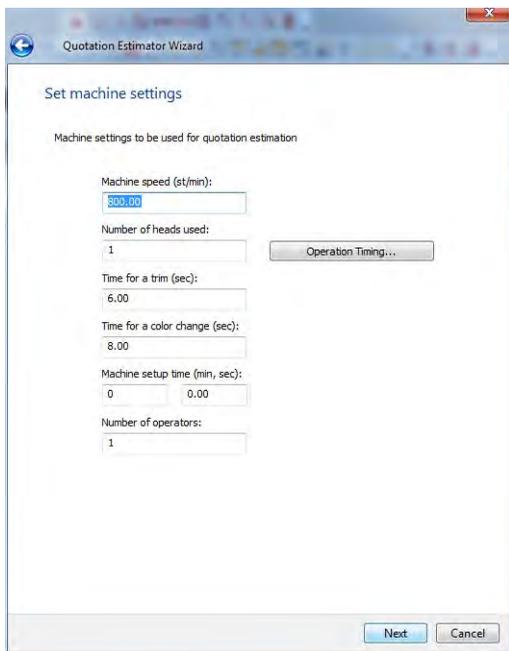


If the loaded design includes appliqués, enter the number of these, and the time required to handle an appliqué, in the appropriate fields.

- Click Next to continue.

## Step 4: Enter the Machine settings

- 1 Enter the settings particular to the machine:
  - ◆ The machine speed (stitches/minute)
  - ◆ trim time
  - ◆ Number of heads to be used for the job
  - ◆ Color change time
  - ◆ Machine set-up time
  - ◆ The number of operators

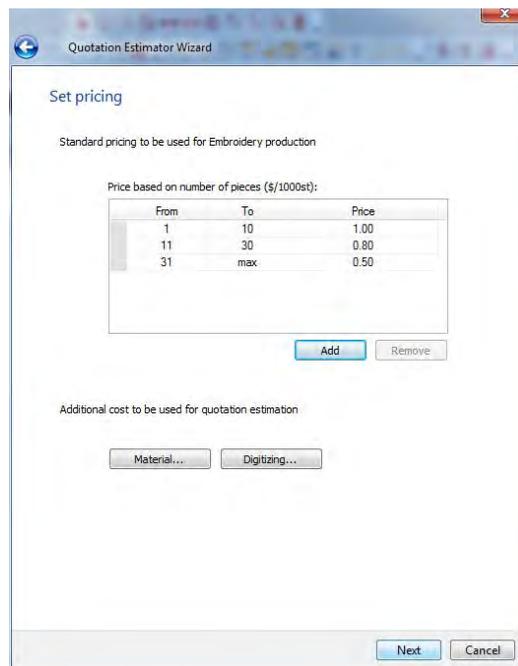


- 2 Click Next to continue.

## Step 5: Set Pricing

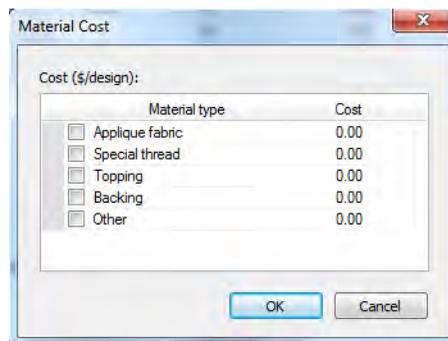
On the Set pricing page, you set the unit price for the job. There is the option to set the price differentially for different lot sizes (i.e. by range, in number of pieces).

By default, the Set Pricing table will display three job size ranges; however, you can, if you wish, add more rows to this table by clicking the Add button.



There is also the option to go into greater detail with the pricing, by clicking on one or both of the following buttons:

**Material:** In the Material dialog, include additional costs associated with the materials used, such as appliqué material, non-standard thread types, backing, and topping.



**Digitizing:** In the Digitizing dialog, add your charge for digitizing the design, if any. By selecting the Custom radio button, you can pro-rate the cost by number of stitches; or you can select fixed to apply a flat-rate charge for digitizing, or select free to have no set charge for the digitizing.

**Digitizing Cost**

Custom

Cost based on number of stitches (\$/1000st):

From	To	Cost
1	3000	10.00
3001	10000	8.00
10001	max	5.00

Fixed (\$)

Free

- Click Next to continue.

### Step 6: Set customer details

- 1 Record the customer's contact information, which can be included on the print-out. The customer information fields include name, address, phone & fax numbers, e-mail address, etc.



Customer information entered here will be saved, and will automatically repopulate the fields on the dialog the next time you invoke the Quotation Estimator Wizard.

**Quotation Estimator Wizard**

Set customer details

Customer details to be used for the quotation

Name:  
Pulse Microsystems

Contact name:  
D. R. Singh

Address:  
6711 Mississauga Rd  
Mississauga, Ontario  
N2L 3X1

Tel:  
(888)519-8211

Cell:

E-mail:

Web:

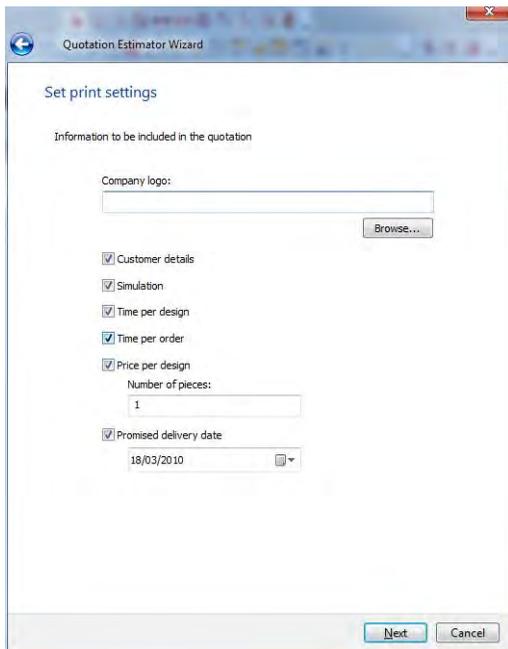
Other:

- 2 Click Next to continue.

### Step 7: Print Settings

On the print settings page, you can choose the information that you want to include on the print-out, so that it can be included with the estimate you send.

- Include any of the following information:
  - ♦ Customer information (see step 6)
  - ♦ A design simulation (see step 8)
  - ♦ Time per design
  - ♦ Time per order
  - ♦ Price per design
  - ♦ Number of pieces in the order
  - ♦ The Delivery date.



You can include a company logo on the final estimate, by inputting or browsing to the location of the graphic.

### Step 8: Choose the Simulation Background

The Wizard also allows you to create a simulation of the design, as it will look on a garment (this is optional). The preview can then be included on your Quotation sheet.

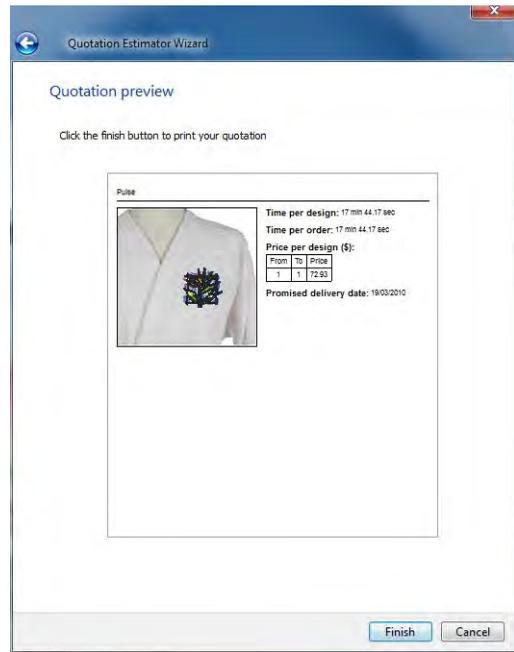
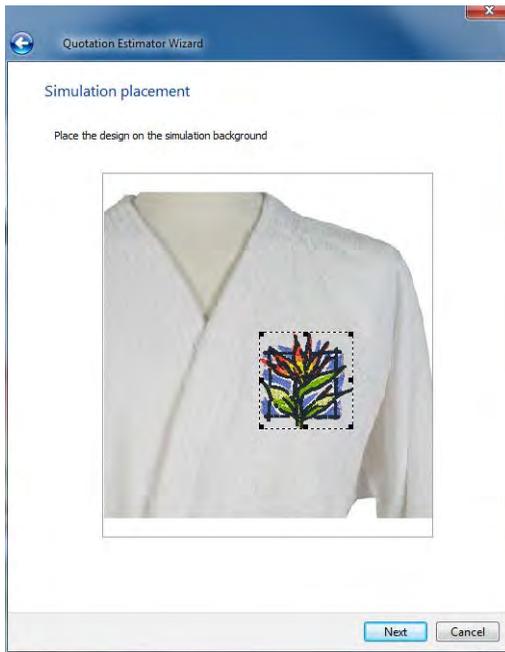
- 1 Choose a background image (either fabric or garment image).



- 2 Click Next to continue.

### Step 9: Place the Simulation

On this page, you see the 3-D preview of the design superimposed on your background of choice.



The design can be moved around on the background by clicking and dragging it with the mouse. You can also resize it by dragging on the corner handles (black squares) on the frame; or, rotate it, by hovering over one of the handles until the “double-arrow” cursor appears.

- Click Next to continue.

### Step 10: Preview

The Preview page shows how the Quotation Estimate will look when printed, showing all the information you have chosen to include (at Step 6), the sewing simulation, and the company logo, if any.

- Click the Finish button to print the quotation sheet.



When you click finish, this will open up your computer’s printer dialog; you can then choose to send the quotation sheet to any available printer, including network printers, fax machines, PDF, etc.



# APPENDIX A

## Keyboard Shortcuts and Commands

This section provides a list of keyboard shortcuts and commands that make it easier to work with designs in Tajima DG16 by Pulse

*Topics covered in this appendix:*

- Various keyboard shortcuts for in Tajima DG16 by Pulse.
- How to use keyboard commands that can only be accessed through keyboard keys.

# Keyboard Shortcuts

Action	Key
<b>File menu</b>	
Save	Ctrl+S
Design Properties	Shift+E
Exit	Alt+F4
<b>Edit menu</b>	
Undo	Ctrl+Z or Alt+Backspace
Redo	Ctrl+Y
Repeat	Shift+R
Cut to clipboard	Ctrl+X
Copy to clipboard	Ctrl+C
Paste from clipboard	Ctrl+V
Clear	Del
<b>Edit tools</b>	
Select (outline)	S
Stitch Select	M
Vertex Select	N
Angle Lines	D
Slice	C
<b>Segment menu</b>	
Select All	Ctrl+A
Insert Before	Ins
Insert After	Ctrl+Ins
Generate selection	G
Generate all	Shift + G
Auto Breakup	Shift + Z
<b>Resequence</b>	
Bring To End of Design	Shift+End
Bring To Start of Design	Shift+Home
Move Later by 1	Shift+PgUp

Action	Key
Move Earlier by 1	Shift+PgDn
Shortcut Menu	Ctrl+E
<b>Digitizing Tools</b>	
Enhanced Column	F12
Column	F8 or Ctrl+F7
Manual	F5
Manual Jump	Select the Manual tool. Click while pressing Ctrl.
Run	F6
Bean (Run style)	Shift+F6
Complex Fill	F11
Steil	F7
Satin Path	Ctrl+F9
Cross-stitch	Alt + O, P, C
Cross-stitch Fill	Alt + O, P, O
Star	Alt + O, P, T
Appliqué	Alt + O, P, A
Appliqué Cut	Shift+F7
Line Carving	F10
Region Carving	Ctrl+F10
Symbol	Shift+F9
<b>View menu</b>	
Zoom	Z
Back to 1:1	1
Fit to Window	2
Fit Selection to Window 4	
Measure	Ctrl+M
Sequence View	Shift + T
View by Color	V (Press the spacebar on your keyboard to move to the next color.)
Snap to Grid	Shift + backspace
<b>Artwork Tools</b>	
Combine	Ctrl+L
Breakup	Ctrl+K

Action	Key
Connect Shapes	Ctrl+Shift+O (letter O)
<b>Image menu</b>	
Hide	I (Press I again to restore image).
Lighten	L (Press L again to restore original image).
Backdrop Select	Ctrl+I
<b>Command Tools</b>	
Insert Trim at End	F9
<b>Window menu</b>	
Enter/Exit Full Screen	Shift+F12
<b>Help menu</b>	
Contents	F1
<b>Design Editing in Outline Mode</b>	
Shortcut menu in Outlines	Ctrl+E
Shortcut to Properties	Alt+Enter
Show Beads	Ctrl+B
Show Dots	P
Show 3-D Stitches	3
Highlight Stitch Exception	Ctrl+P
Deselect all	Shift+S
<b>Settings Painter</b>	
Copy Segment Settings	Ctrl+Alt+C
Paste Segment Settings	Ctrl+Alt+V
<b>Stitches in Outline Mode</b>	
Show Stitches	X
Regenerate All	Shift+G

Action	Key
Regenerate Active Group	G (Depending on the configuration of your User Settings, you can also right-click on or outside the segment to generate stitches. For more information, see "Setting the stitch generation settings.")
Select all segments	Ctrl+A
Show Outlines	Shift + X
<b>Navigation bar in Outline Mode (Segment Mode)</b>	
Jump to Start	Ctrl+Home
Jump to Previous Group	Ctrl+ ↓
Rewind	Ctrl+ ←
Forward	Ctrl+ →
Jump to Next Group	Ctrl+ ↑
Jump to End	Ctrl+End
<b>Navigation bar in Outline Mode</b>	
Move to Previous Command	Shift+ ←
Move to Next Command	Shift+ →
Move to Previous Color	Ctrl+ ↓
Move to Next Color	Ctrl+ ↑
Move to Start	Ctrl+Home
Move to End	Ctrl+End
<b>Commands on Shortcut menu</b>	
Duplicate	Ctrl+D
Power Copy	Ctrl+W
Power Edit	W
Resize (Dialog)	Ctrl+R
Rotate (Dialog)	Ctrl+T
Reflect	Ctrl+F

Action	Key
Generate Stitches (current segment)	G (Depending on the configuration of your User Settings, you can also right-click on or outside the segment to generate stitches. See "Setting the stitch generation settings".)
<b>Design Editing in Stitch Mode</b>	
Shortcut menu in Stitches	Ctrl+E
Highlight Stitch Exception	Ctrl+P
Deselect the active segment	Shift+S
<b>Navigation bar in Stitch Mode</b>	
Move to Previous Command	Shift+ ←
Move to Next Command	Shift+ →
Move to Previous Color	Ctrl+ ↓
Move to Next Color	Ctrl+ ↑
Move to Start	Ctrl+Home
Move to End	Ctrl+End

## Keyboard Commands

The following keyboard commands do not have corresponding menus or tools; the only way to access them is through the keyboard.

Action	Key
<b>Design Workspace</b>	
Switch to a different design window	Ctrl+Tab
Toggle between the Select (Outline)  tool and the Stitch Select  tool (one of these tools must be enabled).	E
Toggle between the Run tool and the previously used digitizing tool (the Run tool or a digitizing tool must be enabled).	Spacebar
Pan	Hold down Spacebar
Highlight cursor (mouse finder)	Shift+F
Move Guidelines	Ctrl+Shift (press and hold the Ctrl and Shift keys as you click and drag the guideline off the screen)
Zoom in while digitizing	Press + on the number keypad to zoom in.
Zoom out while digitizing	Press - on the number keypad to zoom out.
Backup to previously punched point	Backspace
Stop drawing ribbon	ESC

Action	Key
<b>Editing</b>	
Expand stitch picking radius (doubles the search radius). This feature is helpful if you're having problems picking a point when you're zoomed in.	Hold down Shift
Delete multiple stitches in stitch mode.	Backspace
When using any path drawing tool you can force your line to be at an angle. Shift forces the next point to be at any 15 degree increment angle (0 to 90 degrees).	Press Shift while digitizing
Set enter and exit locations	0 (numeral zero)
Close a segment	O (letter O)
Nudge anchor points	Select anchor point with Vertex Select and use Alt + arrow keys ( ← ↓ → ↑ )
Display the Segment Settings property pages for a selected outline segment.	Alt + Enter, or Double-click the outline segment.
Offset	Shift + O (letter O)
Move and duplicate	Alt + Left-click
Repeat last Action	Shift + R
<b>Drawing Modes</b>	
Arc	A
Bezier	B
Freehand	F
QuickDraw	Q
Circle	R
<b>Enhanced Bezier entry modes</b>	
Straight mode	Left-click

Action	Key
Bezier mode	Ctrl
<b>Font Creator</b>	
Check each letter for needle up run stitch in first segment and remove it.	Ctrl+R
<b>Miscellaneous</b>	
When merging a design file	Press Ctrl
press the Ctrl key (before placing the merged design) to insert a color change at beginning of merged design.	





# APPENDIX B

## Tajima DG16 by Pulse Options

Tajima DG16 by Pulse offers you various options to choose from within the software.

*Topics covered in this appendix:*

- Applying sequin segments, including Sequin runs, Sequin fills, Sequin fonts, and Color Change Sequins.
- Creating Lochrose stone paths.
- Working with Chenille tools.
- How to use the Laser tools for SEIT Laser Bridges.
- Saving and loading Design files from cloud storage.
- Using the Auto boring tools.
- Head Group Manager.

## Tajima DG16 by Pulse Options

- **Sequin:** The Sequin tools allow you to create designs for sequin embroidery machines. These machines have specially designed sewing heads to sew sequins on garments. These attachments require a specific series of jump and normal stitches to properly attach the sequin to the garment. The Sequin tool lets you digitize Sequins as you would digitize a Run stitch. Tajima DG16 by Pulse will automatically generate the proper series of commands and stitches necessary for the accurate placement of the sequins.
- **Lochrose:** There is a new option that allows you to place a certain kind of decorative “stones” on garments. These stones are placed and ‘tacked down’ in a manner similar to sequins, but with certain important differences in the settings.
- **Chenille:** Use the Chenille tools to create TrueType® lettering and digitize custom Chenille designs. Chenille is a unique type of embroidery that looks and feels like terry cloth and is commonly used for lettering on sports team jackets. You can select a TrueType® font, enter the text, and you can create Chenille lettering. For digitizing custom designs, Chenille provides specialized Chenille digitizing tools including Lattice Chenille, Spiro Chenille, Spiral Walk, Moss Walk, and Chain Walk. Using these tools, you can create unique Chenille embroidery.

## Applying Sequin

You can apply sequin to your designs using the Sequin  tool, available in the Digitizing toolbar. Embroidery machines that sew sequin on garments have specially designed sewing heads. These machine attachments require a specific series of jump and normal stitches to properly attach the sequin to the garment.

## Applying Sequins

The Sequin tool lets you digitize sequin as you would digitize a Run stitch. Tajima DG16 by Pulse automatically generates the proper series of commands and stitches necessary for the accurate placement of the sequin. All you need to do is trace the path where you want to apply a line of sequins and complete the segment.

### To digitize a sequin segment:

- 1 From the Sequin toolbar, select the Sequin tool .
- 2 Click in the design workspace to place the anchor points of the Sequin segment.
- 3 Press **Enter** when you have placed all the required points.  
*The pointer turns into a green triangle.*
- 4 Click on the segment to place the start location.  
*The pointer becomes a red triangle.*
- 5 Click on the segment to place the stop location.
- 6 Press G on the keyboard to regenerate stitches.

## Adjusting Sequin Settings

The following section explains the settings that can be adjusted for a sequin segment. Note that on the Selection Settings panel, there are three different tabs relating to Sequin Segments - Commands, Connections, and Sequin.



If a setting you need to adjust does not appear on the selection settings panel, you can show all settings by clicking the “Show all Properties” button at the top of the panel.

### To adjust settings for a Sequin segment:

1 On the Commands  tab of the Properties panel, do the following:

- ♦ **Start Command:** Select Sequin Start to start the sequin activation. After this command, every Drop Sequin command generated will drop a sequin. Some machines use the Changeover command to switch from embroidery to sequin.
- ♦ **Stop Command:** Select Sequin End to end the sequin activation. After this command, the Drop Sequin command will no longer drop sequins. Some machines use the Changeover command to switch from sequin to embroidery.



You can view the Drop Sequin command when you navigate through a sequin segment's stitches.

2 On the Connections  tab, adjust the following settings.

- ♦ **Start Lock:** Adds a lock stitch to the beginning of the segment. Select either None, Basic, Line, Triangle, or Diamond
- ♦ **End Lock:** Adds a lock stitch to the end of the segment. Select either None, Basic, Line, Triangle, or Diamond

- ♦ In the **Start lock stitch length** field, enter the stitch length for the lock stitch.
- ♦ In the **End lock stitch length** field, enter the stitch length for the lock stitch.
- ♦ In the Connection locks field, select one of the following:
  - ♦ **Never** (lock stitches will not be inserted at all.)
  - ♦ **Sometimes** (locks will be inserted, but only under the conditions specified in the next step.)
  - ♦ **Always** (locks will be added around all connections).
- ♦ If the **Sometimes** option is selected above, check the boxes to choose the circumstances in which lock stitches will be placed:
  - ♦ Connection lock around trims.
  - ♦ Connection lock around color changes.
  - ♦ Connection lock around stops.
- ♦ In the Smart Connect area, do the following to apply a trim in the smart connection:
  - ♦ Check the **Connection trim at** box.
  - ♦ Type a value in the **Connection trim at distance** field to set the minimum distance at which a trim will be inserted.
  - ♦ To connect the selected segments with run stitches, check the **Connect by run** box.
  - ♦ In the **Connection max. run length** field, set the maximum length for stitches in the connecting run segment.

3 On the Sequin  tab, adjust any of the following settings:

- ♦ **Sequin Pattern:** Select a pattern from the list of two-color sequin patterns; new sequin patterns may be created

use the Sequin Pattern Manager. For more information, see Color Change Sequin—Creating Sequin Patterns.

- ♦ **Sequin Style:** Choose the pattern that is required for the machine type you will be using. The following are the most used types:
  - ♦ Type 1:



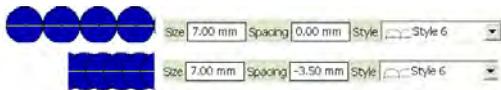
- ♦ Type 4:



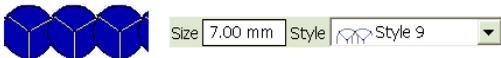
- ♦ Type 5:



- ♦ Type 6:



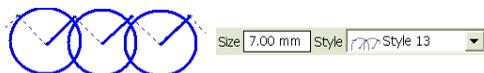
- ♦ Type 9:



- ♦ Type 11 & 12:



- ♦ Type 13 & 14:



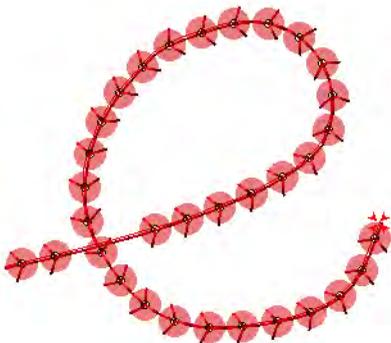
- ♦ **Fit to Line Type:** This setting determines if extra stitches are required to attach the sequin to the garment and how they should be placed. Choose from one of the following settings:
  - ♦ **Offset:** The software adjusts the spacing between the sequin so the last sequin is guaranteed to fit the end of the line.
  - ♦ **Sequin:** The software guarantees the spacing between the sequin and ensures the spacing will not change. An extra sequin will be added to cover the end point of the line.
  - ♦ **No Stitch:** The software guarantees the spacing between the sequin and ensures the spacing will not change. The extra part of the line will be left empty and the stitch will stop at the last sequin.
  - ♦ **At corners:** This setting forces a sequin to be dropped at the vertices (corners or ends) of the Sequin segment.
  - ♦ **Manual:** In this condition, the position of the sequins may be adjusted using the Edit Sequins tool.

If the segment is created with one of the other "Fit to line" types selected, and is afterwards edited using the Edit Sequins tool, the "Fit to line" setting will automatically be changed to Manual.



- ♦ **Force North Drop:** Ensures the jump stitches are dropped from north to south. Some machines prefer the jump stitch to have a positive y movement, which means the jump goes from north (top) to south (bottom).
- ♦ **Sequin Run Stitch Length:** Enter the stitch length for all travelling run stitches.
- ♦ In the **Sequin Drop Run Stitch** field, select one of the options:

- ♦ Select **At Anchor** to place Run stitches at the anchor points.
- ♦ Select **None** to place Run stitches smoothly along the segment.
- ♦ Select **Chord Gap** to place Run stitches to fit a curve.
- ♦ If you select the “Chord Gap” option, do the following:
  - ♦ In the **Max. Chord Gap distance** box, enter the chord gap distance to set the acceptable gap for the stitching at the top portion of a curve.
  - ♦ In the **Min. Stitch Length** box, enter the minimum stitch length to set the limit for the length that the Run stitches can be shortened to fit the top portion of a curve.
- ♦ **Automatic Gap:** Check this setting to create a gap in the sequin placement wherever the sequin segment crosses over itself. When you regenerate stitches, the sequins in overlapping areas will be removed.



- ♦ **Sequin type:** Choose either Standard or Eccentric. For more information, see “Working with Eccentric Sequins.”
- ♦ **Fixed sequin spacing** (Applies to styles 9-16 only): If this setting is selected, the sequin spacing will be determined by the tack-down diameter

and the angle at which the sequin is dropped; sequin spacing cannot be adjusted.

- ♦ **Force positive sequin spacing:** When checked, the spacing of the sequin segment will never be allowed to go below zero.
- ♦ **Force consecutive sequin drops:** The segment will consist of a series of drop sequins only, with no intervening stitches.



Applies to style 6 only. “Force North Drop” must be turned off.

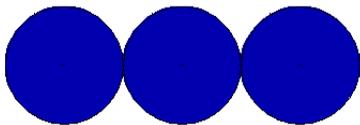
- ♦ **Sequin return run:** Adds a series of run stitches that double back over the sequin segment. These run stitches will be placed to coincide exactly with the existing drop sequin stitches. There are three options for how the return run stitches will be arranged:
  - ♦ **Run to end (Standard):** The run stitches start from the final sequin, and run continuously to the end point. Depending on how the start and stop locations are placed, the stitching may cover the same area more than once.
  - ♦ **Run to end (Optimized):** The run stitches are optimized so that they run back over the sequin segment only once.
  - ♦ **Jump to end:** The Return run stitches run from the end of the segment to the beginning, and then jump stitches are inserted to take the needle back to the end point.
- ♦ **Optimize sequin backtrack:** This setting will eliminate extra stitches that may, under certain conditions, appear in sequin segments. These extraneous stitches may appear when the sequins are spaced such that the tack-down diameters overlap, but the sequins themselves do *not*. Nor-

mally, in this situation, the stitch generator will add extra stitches that “backtrack” along the length of the segment. When “Optimize sequin backtrack” is selected, the drop sequin stitches are optimized so that this backtracking is avoided (where possible).

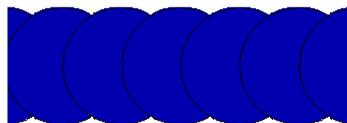


Only applies to sequin styles 4 and 6; will not apply when “Force North Drop” is selected.

- ♦ **Auto-Adjust Tack Down:** Allows you to control the behavior of the tack down stitching. When this setting is selected, the tack down stitch will swing to the center or edge of the previous sequin, when required, to ensure that it does not hit it.
- ♦ **Enable Tie for Style 4** (For style type 4 only): Allows you to enable or disable the tie down stitching used on the first sequin. When deselected, the initial tie down stitch will not be placed.
- ♦ **Sequin Size:** Enter the size (diameter) of the sequin. Size depends on the sequin device specification.
- ♦ **Tack Down Diameter:** Enter a value for the diameter of each sequin’s tack down stitches. This value automatically increases the sequin spacing.
- ♦ **Spacing:** Enter the spacing between the sequin. Use a positive value to have a gap between the sequin or a negative value to overlap the sequin.



Spacing set to 0.00 mm with a sequin of 7.00 mm



Spacing set to -3.50 mm with a sequin of 7.00 mm

- ♦ **Hole Size:** You can determine the size of the hole in the sequin by typing in a value here.
- ♦ **Count:** Not an adjustable setting, this field shows the number of sequins in the selected segment.
- ♦ **Sequin tack-down repeats:** Enter the number of additional tack-down stitches to create. To have normal stitching, enter 0, the default value. A value of 1 or more will cause the tack down stitches to be repeated the specified number of times.
- ♦ **Sequin Shape:** From the drop-down list, select a shape for the sequin to be placed. The default shape is a circular sequin, but you can add other shapes to the list, if desired: see “Custom Sequin Shapes.”
- ♦ **Color:** Allows you to set a color for the sequins in the workspace.
- ♦ **Sequin Repeats:** Determines the number of sequins placed on top of each other at a single location. Each sequin will be accorded its own set of tack-down stitches.



If you have the “Color Change Sequin” option, another area in the Properties panel will be active – the Sequin2 area. These settings allow you to set the Size, Spacing, Tack down diameter, etc. of the second sequin in Color Change Sequin segments. For more information, see in the “Color Change Sequin” section, below.

## Creating Sequin Fill segments

The Sequin Fill  tool lets you digitize complex shapes filled with sequins. You create a Sequin Fill segment the same way you would digitize with the Complex Fill tool. The segments have entry and exit beads as well as a direction line for controlling the direction of the fill. You can also create holes in a sequin fill similar to a Complex Fill, or add Wave patterns, if desired.

### To digitize a Sequin Fill segment:

- 1 Click the Sequin Fill tool.
- 2 Click in the design workspace to place the anchor points of the Sequin Fill segment.
- 3 Press **O** to close the segment.  
*The pointer turns into a green triangle.*
- 4 Click on the segment to place the start location.  
*The pointer becomes a red triangle.*
- 5 Click on the outline of the segment to place the stop location.  
*The pointer becomes an angle-line bead.*
- 6 To determine the orientation of the rows of sequins, click and drag the angle line across the width of the Sequin Fill segment.
- 7 Press **G** on the keyboard to regenerate stitches.

## Adjusting Sequin Fill settings

The following procedures outline those settings that can be adjusted in a Sequin Fill segment. Note that on the Selection Settings panel, there are a number of different tabs relating to Sequin fill segments.



If a setting you need to adjust does not appear on the selection settings panel, you can show all settings by clicking the “Show all Properties”  button at the top of the panel.

- 1 On the Command  tab of the Selection settings panel, do the following:
  - ♦ **Start Command:** Select Sequin Start to start the sequin activation. After this command, every Drop Sequin command generated will drop a sequin. Some machines use the Changeover command to switch from embroidery to sequin.
  - ♦ **Stop Command:** Select Sequin End to end the sequin activation. After this command, the Drop Sequin command will no longer drop sequins. Some machines use the Changeover command to switch from sequin to embroidery.



You can view the Drop Sequin command when you navigate through a sequin fill segment's stitches.

- 2 Select the Connections  tab.
- 3 To adjust Smart connections, do the following:
  - ♦ Check the **Connection trim at** box.
  - ♦ Enter a value in the **Connection trim at distance** field to set the minimum distance at which a trim will be inserted.

- ◆ To connect the selected segments with run stitches, check the **Connect by run** box.
  - ◆ In the **Connection max. run length** field, set the maximum distance between segments to be connected by a run.
- 4 To adjust Lock stitch settings, expand the Lock Stitches area of the Connections tab, and select one or more of the following:
- ◆ **Start Lock:** Adds a lock stitch to the beginning of the segment. Select either None, Basic, Line, Triangle, or Diamond
  - ◆ **End Lock:** Adds a lock stitch to the end of the segment. Select either None, Basic, Line, Triangle, or Diamond
  - ◆ In the **Start lock stitch length** field, enter the stitch length for the lock stitch.
  - ◆ In the **End lock stitch length** field, enter the stitch length for the lock stitch.
  - ◆ In the **Connection locks** field, select one of the following:
    - ◆ **Never** (lock stitches will not be inserted at all.)
    - ◆ **Sometimes** (locks will be inserted, but only under the conditions specified in the next step.)
    - ◆ **Always** (locks will be added around all connections).
  - ◆ If the **Sometimes** option is selected above, check the boxes to choose the circumstances in which lock stitches will be placed:
    - ◆ Connection lock around trims.
    - ◆ Connection lock around color changes.
    - ◆ Connection lock around stops.
  - ◆ In the Smart Connect area, do the following to apply a trim in the smart connection:
    - ◆ Check the **Connection trim at** box.
    - ◆ Type a value in the **Connection trim at distance** field to set the minimum distance at which a trim will be inserted.
    - ◆ To connect the selected segments with run stitches, check the **Connect by run** box.
    - ◆ In the **Connection max. run length** field, set the maximum length for stitches in the connecting run segment.
- 5 Select the Sequin  tab, and adjust any of the following settings:
- ◆ **Sequin style:** Choose the pattern that is required for the machine type you will be using.
  - ◆ **Force North Drop:** Ensures the jump stitches are dropped from north to south. Some machines prefer the jump stitch to have a positive y movement, which means the jump goes from north (top) to south (bottom).
  - ◆ **Auto-Adjust Tack Down:** Allows you to control the behavior of the tack down stitching. When this setting is selected, the tack down will swing to the center or edge of the previous sequin, to ensure that the tack down does not strike it.
  - ◆ **Run Stitch Length:** Enter the stitch length for all travelling run stitches. Stitches sewn between sequins are not affected.
  - ◆ **Fixed sequin spacing** (Applies to styles 9-16 only): If this setting is selected, the sequin spacing will be determined by the tack down diameter and the angle at which the sequin is dropped; sequin spacing cannot be adjusted.
  - ◆ **Force consecutive sequin drops** (Applies to style 6 only): The segment

will consist of a series of drop sequins only, with no intervening stitches.

- ◆ **Fit Sequin to box:** Check to force sequins of different sizes to be evenly spaced. (Applies to Color-change sequin segments only; see “Color Change Sequin—Fit to box.”)
- ◆ **Enable Tie for Style 4** (For style type 4 only): Allows you to enable or disable the tie down stitching used on the first sequin. When deselected, the initial tie down stitch will not be placed.

6 Select the Sequin Fill  tab, and adjust any of the following settings:

- ◆ **Fill Type:** From the Fill Type list, select one of the following:
  - ◆ **Standard** - Sequins will sew back and forth parallel to the direction line.
  - ◆ **Wave** - Creates a curved direction line.

To adjust the number of waves in the sequin fill, and the stitch lengths associated with the wave fill, look under the Fill tab.

For more information on creating Wave fills, see Using Digitizing Tools—Wave Stitches.

- ◆ **Sequin Pattern:** Select a pattern from the list of two-color sequin patterns; new sequin patterns may be created use the Sequin Pattern Manager. For more information, see Color Change Sequin—Creating Sequin Patterns.
- ◆ **Fit To Shape:** Select to have sequins fit as best as possible within the outline shape. The gaps between sequins and the shape are minimized. When selected, more sequins are created and spacing is adjusted slightly. When deselected, this setting is disabled.
- ◆ **Pattern Offset:** Enter a value to offset a row of sequins from the previous row. For example, if the value is set to 4mm,

then row 2 will shift over 4mm from row 1. Row 3 will shift over another 4mm from row 2 and so on. Additional sequins will automatically be added to the beginning of rows if the offset creates a large enough gap.

- ◆ **Sequin Line Spacing:** Enter the spacing between the rows of sequins. Use a positive value to have a gap between the rows of sequins or a negative value to overlap the rows of sequins.
- ◆ **Line Direction:** From the Line Direction list, select one of the following directions to sew sequin:
  - ◆ **Non-Uniform.** Select to alternate the sewing direction for each new row.
  - ◆ **Uniform.** Select to have each row of sequins sew in the same direction.
- ◆ **Fitting Tolerance:** By default, sequins do not go outside the outline of the digitized shape. To allow sequins to go outside of a segment shape, enter a length in the Fitting Tolerance box; sequins will then be able to overlap the outline by the amount specified.
- ◆ **Fill Direction:** Click the down arrow next to the Fill Direction Field to select either:
  - ◆ **One Direction:** The sequins are laid down in one direction, regardless of the shape of the artwork segment.
  - ◆ **Two Directions:** The sequins will be laid down in both directions (forward or back) so as to use the minimum number of stitches.
- ◆ **Connection type:** This property determines how the ends of the rows of sequins will be connected.
  - ◆ **Outside:** Connection stitches go from the end of one line to the beginning of the next.

- ♦ **Edge:** Travelling stitches are sewn along the edge of the shape after each row.
- ♦ **Pattern:** Connection stitches will be generated so as to follow the sequin pattern as closely as possible.
- ♦ **Travelling Route:** From the Travelling Route list, select one of the following to set the position of the travelling Run stitches placed underneath the design's stitches:
  - ♦ **Along Middle:** Use for stitches with a heavy density because the travelling run stitches will not be visible.
  - ♦ **Along Edge:** Use for stitches with a light density to hide the traveling Run stitches.
- ♦ **Tack Down Diameter:** Enter a value for the diameter of each sequin's tack down stitches. This value automatically increases the sequin spacing.
- ♦ **Spacing:** Enter the spacing between the sequin. Use a positive value to have a gap between the sequin or a negative value to overlap the sequin.
- ♦ **Sequin Count:** Not an adjustable setting, this field shows the number of sequins in the selected segment.
- ♦ **Size:** Enter the size (diameter) of the sequin. Size depends on the sequin device specification.
- ♦ **Hole Size:** You can determine the size of the hole in the sequin by typing in a value here.
- ♦ **Sequin tack-down repeats:** Enter the number of additional tack down stitches to create. To have normal stitching, enter 0, the default value. A value of 1 or more will cause the tack down stitches to be repeated the specified number of times.
- ♦ **Sequin Shape:** From the drop-down list, select a shape for the sequin to be

placed. Circle is the default shape, but you can add other shapes to the list, if desired.

For more information, see "Custom Sequin Shapes."

- ♦ **Sequin Repeats:** Determines the number of sequins placed on top of each other at a single location. Each sequin will be accorded its own set of tack-down stitches.
- ♦ **Sequin Color:** Allows you to set a color for the sequins in the workspace.

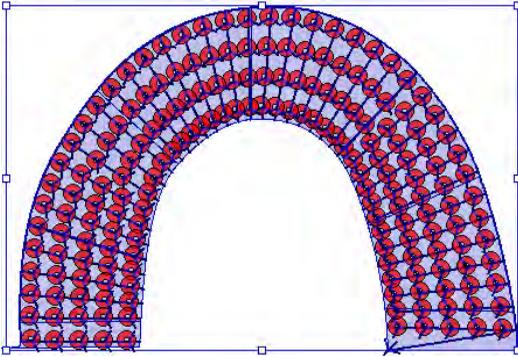
If you have the "Color Change Sequin" option another area in the Properties panel ('Sequin2') will be active. These settings allow you to set the Size, Spacing, Tack down diameter, etc. of the second sequin in Color Change Sequin segments.

For more information, see in the "Color Change Sequin" section, below.



## Creating a Sequin Turning Fill Segment

The Sequin Turning fill tool may be used to create sequin fill segments composed of rows of sequins. Unlike the Sequin fill, however, the segment can contain two or more direction lines, much like a Column stitch in regular embroidery. The direction lines are automatically placed in the segment as it is digitized, and in such a way that they allow the sequence to follow the curve of the segment's outline.



In Sequin Turning Fill segments, the rows of sequins are all connected along one side, much like an “E-stitch” fill or satin segment.

### To digitize a Sequin Turning Fill segment:

- 1 In the Digitizing toolbar, click the Sequin Turning fill  tool.  
*The pointer becomes a cross.*
- 2 Click in the design workspace to place the outline points of the segment:
  - ♦ Click the left mouse button to create a straight points.  
*When you place straight points, a square appears around the point.*
  - ♦ Click the right mouse button (or hold down **CTRL** and click) to create curved points.  
*When you place curved points, a circle appears around the point.*
- 3 Press **ENTER** to complete the segment.  
*The mouse pointer changes to a dot with a green triangle.*

- 4 Click on the segment outline to place the start point.

*A green bead appears on the segment; the stop point will be placed automatically.*



The Sequin Turning Fill segment will be generated with Angle lines already included; however, you can change, add, or delete these with the Angle Lines tool; see “Using Paths—Working with Beads—Adding angle lines to segments.”

- 5 Adjust the properties of the segment in the Selection Settings tabs of the Properties panel:

- ♦ To adjust tack-down stitch style, Force North drop, and sequin stitch length, select the Sequin  tab.
- ♦ To adjust line spacing, line direction, etc., click the Sequin Fill  tab.
- ♦ To adjust tack-down diameter, and the sequin’s size, color, hole size, spacing, and shape, select the Turning sequin  tab. For specific descriptions of the above settings, see “Adjusting Sequin Fill Settings.”

## Freeplace Sequin Tool

It is now possible to place sequins individually along a path, giving you complete control of where they are placed, using the Freeplace Sequin tool. This works much like the manual digitizing tools, except that you place sequins as you go by holding down the **Alt** key while digitizing nodes.

### To use the Freeplace Sequins tool:

- 1 Select the Freeplace Sequin  tool.

- 2 Choose a drawing mode for creating your path.



QuickDraw or Bezier modes work best with Freeplace Sequin. For more information on drawing modes, see “Drawing Lines” in the Using Paths section.

- 3 Create the path or shape as usual by clicking to place anchor point; press the **Alt** key at each point that you want to place a sequin.

*You see a path with “ghost outlines” where the sequins have been placed.*



To place a sequin at every anchor point, simply hold down **Alt** while clicking.

- 4 To add sequins between anchor points on the path, hold down the **Alt** key while clicking on the path.
- 5 Press **ENTER** to complete the segment.

An alternative method of digitizing a Freeplace sequin segment is to place all the points of the outline first, then press **Enter**; this will complete the outline of the segment. Then, with the Freeplace sequin tool still selected, go back over the segment, clicking to place sequins where you want them. Press **Enter** once more, and the sequins and their tack down stitches will be generated.



## Editing Sequins

The Edit Sequins  tool may be used to edit the sequins on sequin segments individually. Edit Sequins allows you to move sequins along an existing path and add or delete sequins from the path.

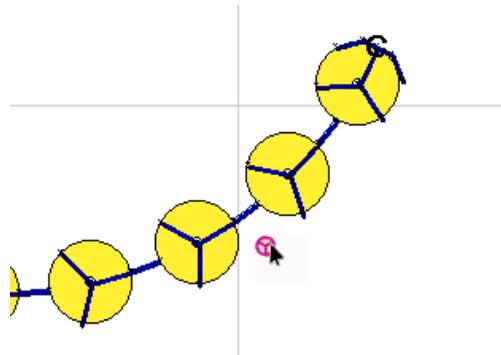
There is also the option to superimpose two or more sequins on top of each other, each with its own tack down stitches. This is done using the “Repeat sequins” option on the Edit Sequin context menu.



To select multiple sequins for editing, hold down **Ctrl** while clicking.

### To move a sequin using the Edit Sequins tool:

- 1 Click on the Edit Sequin  tool.  
*A sequin icon appears next to the mouse pointer.*



- 2 Move the pointer close to the center of the sequin, so that you see the pointer change to an arrowhead shape.



Holding down the **shift** key while using Edit Sequins increases the effective size of the sequin bead, making it easier to select it.

- 3 Click on the sequin and drag it along the path to the desired position.

- 4 Press **G** to regenerate stitches.

*You see the sequin in the new location.*

To view the change in the sequin's position immediately, you can choose to generate stitches automatically. On the Ribbon, choose Tools—User Settings—Stitch Generation. Check the Generate stitches after editing beads box.



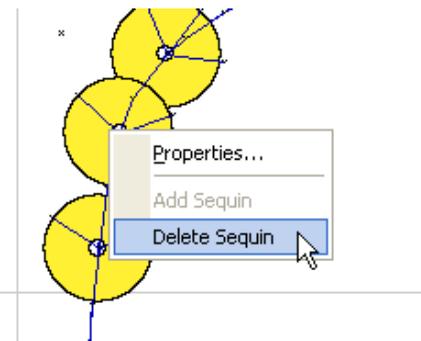
### To delete a sequin from a Freeplace sequin path:

- 1 Click on the Edit Sequin  tool.  
*A sequin icon appears next to the mouse pointer.*
- 2 Move the pointer close to the center of the sequin, so that you see the pointer change to an arrowhead shape.



Holding down the shift key while using Edit Sequins increases the effective size of the sequin bead, making it easier to select it.

- 3 Right-click on the sequin.  
*You see a context menu.*



- 4 Choose Delete Sequin from the context menu.  
*The sequin is deleted from the path.*

### To add a sequin to a freeplace sequin path:

- 1 Click on the Edit Sequin  tool.  
*A sequin icon appears next to the mouse pointer.*
- 2 Move the pointer over the path.



Holding down the shift key while using Edit Sequins increases the effective size of the sequin bead, making it easier to select it.

- 3 Right-click on the path.  
*You see a shortcut menu.*
- 4 From the shortcut menu, choose Add Sequin.  
*The new sequin appears on the Freeplace Sequin path.*

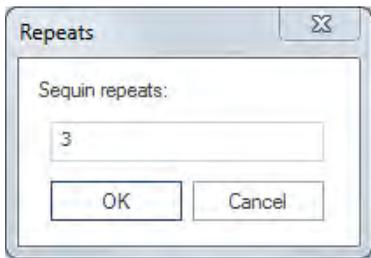
### To add sequin repeats:

- 1 Click on the Edit Sequin  tool.  
*A sequin icon appears next to the mouse pointer.*
- 2 Move the pointer close to the center of the sequin, so that you see the pointer change to an arrowhead shape.



Holding down the shift key while using Edit Sequins increases the effective size of the sequin bead, making it easier to select it.

- 3 Click to select the sequin; to add repeats to more than one sequin, hold down **Ctrl** and click on other sequins.
- 4 Right-click to open a context menu.
- 5 From the menu, choose "Set number of repeats."  
*You see the Repeats dialog.*



- 6 Enter the number of sequin repeats.
- 7 Click OK.  
*The Repeats dialog will close, and the repeats will be generated – one extra sequin and a complete set of tack down stitches for each repeat.*

## Variable Spacing for Sequin Segments

The Edit Sequin Spacing  tool allows you to create Sequin segments in which the spacing value varies along the length of the segment. With this tool, you place one or more spacing beads (these will appear as purple squares) along the length, and then set the density changes that you want to have occur at those points.

Once you set the change in sequin spacing at each sequin spacing bead, you can set a Graduate profile for the segment. This property determines the way in which the density changes.

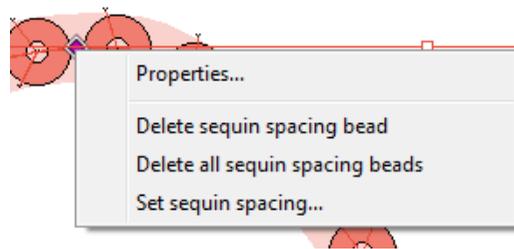
### To add variable density to a Sequin segment:

- 1 Using the Select tool, select a Sequin segment.
- 2 From the Path Edit toolbar, select the Sequin spacing  tool.

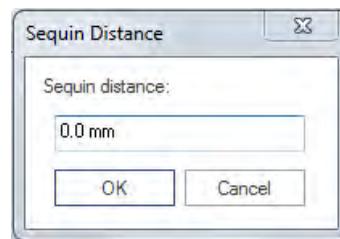
- 3 Place the cursor over the segment and right-click.  
*You see a context menu.*
- 4 Choose "Add Sequin spacing bead" from the context menu.  
*A square bead is placed in the selected position. You can change the position of the bead by clicking and dragging it with the mouse.*

 The right-click menu also allows you to delete the selected spacing bead, or to delete all spacing beads in the segment.

- 5 Right-click on the bead, and choose "Set Sequin spacing" from the context menu.

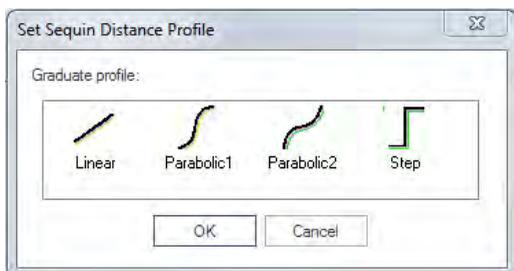


*You see the Sequin distance dialog.*



- 6 Enter the value of the change in Sequin spacing that you want to applied at that point in the Sequin stitch.  
*The value entered will be added to the default (Properties) spacing value, at the point where the bead has been placed. A negative value can be entered to reduce the spacing value.*

- 7 To set the Sequin spacing profile, right-click on the Sequin segment (important – **not** on one of the beads).  
*You see a context menu.*
- 8 From the context menu, select "Set sequin spacing profile."  
*You will see the following dialog:*



- 9 Choose one of the following Sequin spacing profiles:
  - ♦ **Linear:** The change in Sequin spacing is distributed uniformly along the Sequin segment.
  - ♦ **Parabolic1** or **Parabolic2:** Sequin spacing changes at different rates, depending on the part of the segment.
  - ♦ **Step:** The Sequin spacing change occurs all at once, at the bead.
- 10 Press **G** to regenerate the Sequins and tack-down stitches.

## Eccentric Sequins

Eccentric Sequins are sequins in which the hole in the sequin is placed off-center. You can choose from two eccentric sequin shapes provided with your Tajima DG16 by Pulse software, or create your own eccentric sequins (see "Creating Custom Sequin Shapes"). You can select your eccentric sequin shape from the Sequin shape drop-down list on the Properties pages.

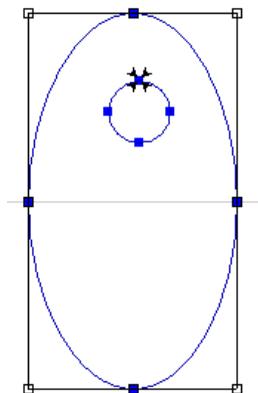
Since eccentric sequins have the potential to hang from a garment asymmetrically, they can look different depending which way is up or down. To help you view the ultimate look the design will have, apply the Toggle Sequin tool: this simulates the effect of gravity on eccentric sequin segments.

## Custom Sequin Shapes

You can create your own original sequin shapes in Tajima DG16 by Pulse. You build these shapes by combining two outlines that you draw using the Artwork drawing tools; one outline to represent the sequin and another to represent the hole. The Save as Sequin function then combines the outlines into a single shape, which you can then save and use with all the sequins tools.

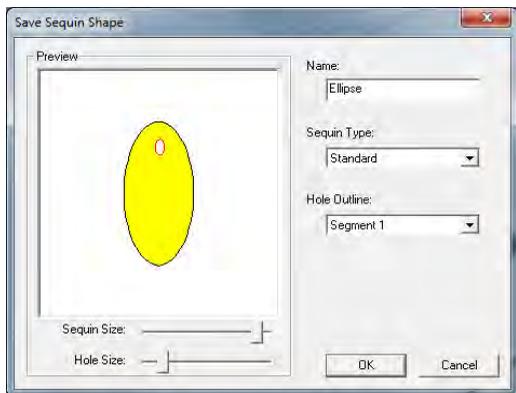
### To create and save a sequin shape:

- 1 Using the Artwork tools, create two closed artwork segments.
- 2 Select the segments.



- 3 Right-click and choose Save as—Sequin shape from the shortcut menu.

You see the Save as Sequin dialog.



- 4 Do one or more of the following:
  - ♦ Name the sequin shape.
  - ♦ Choose Standard or Eccentric from the Sequin Type list
  - ♦ Choose which of the segments will represent the hole outline shape by choosing either Segment 1 or Segment 2 in the Hole Outline box.
  - ♦ Adjust the sequin and/or hole size in the preview pane using the sliders.
- 5 Click OK to save.

## Sequin Fonts

Tajima DG16 by Pulse now has available as options, fonts that you can use to create sequin lettering. There are four two Block and two are Script fonts.

These fonts can have their properties modified via the text property pages. Options can be made to text attributes such as height, envelope, justification and so on; in other words, these fonts can be treated in much the same way as regular embroidery fonts.

For more information on how to create and edit text, see “Changing Text Properties”.

Sequin script font, with a Steil outline applied.



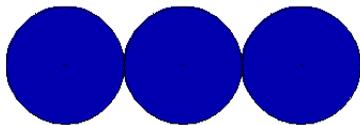
If you want to add outlines to sequin script lettering, be aware that, since some letters in these fonts are joined, the Letter by Letter sewing of outlines (Steil or Run) will not work. The outline will be added, but it will sew all at once. For more details, see “Choosing the Outline Font Sewing Order”.

The Sequin fonts are available on the CD and will need to be copied to the font folder in order to use them, and will also be available in the download area on the website.

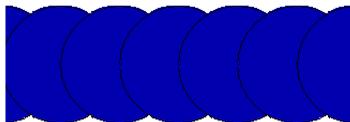
### To use the Sequin Fonts:

- 1 Choose one of the text tools from the text toolbar, and create a text segment.
- 2 Choose one of the sequin fonts from the Font drop-down list on the ribbon.  
*You see the Enter text box.*
- 3 Enter the text in the box, and click OK.  
*Your text appears on the workspace.*
- 4 To modify the look of your Sequin lettering segment, make changes to any of the following settings:
  - ♦ **Size:** Enter the size of the sequin. Size depends on the sequin device specification.
  - ♦ **Tack Down Diameter:** Enter a value for the diameter of each sequin's tack down stitches. The value automatically increases the spacing between sequins.
  - ♦ **Spacing:** Enter the spacing between the sequins. Use a positive value to

have a gap between the sequin or a negative value to overlap the sequins.



0.00 mm with a sequin of 7.00 mm



-3.50 mm with a sequin of 7.00 mm



The overlap of sequins should not be more than 50% of the sequin diameter, to avoid having the tack-down stitches going through the previous sequin.

- ◆ **Repeats:** Enter the number of additional tack down stitches to create. To have normal stitching, enter 0, the default value. A value of 1 or higher will repeat each section of sequin tack down stitches by the amount chosen.
- ◆ **Style:** Choose the pattern that is required for the machine type you will be using.



Fonts are optimized to be used with Styles 4 and 6.

- ◆ **Run Stitch Length:** Enter the stitch length for all travelling run stitches. Stitches sewn between sequins are not affected.
- ◆ **Hole Size:** You can determine the size of the hole in the sequin by typing in a value here.
- ◆ **Auto-Adjust Tack Down:** Allows you to control the behavior of the tack down stitches that are placed after the sequin is dropped. When this setting is selected, these stitches will automati-

cally be adjusted to avoid penetrating the previous sequin. The tack down stitch will move either to the center, or to the edge, of the previous sequin. When deselected, the tack down will sew normally.

- ◆ **Enable Tie for Style 4** (For style type 4 only): Allows you to enable or disable the tie down stitching used on the first sequin. To enable the tie down stitching, select Enable Tie for Style 4. When unselected, the tie down stitching is disabled.
- ◆ **Count:** Calculates the number of sequins dropped between 2 changeover commands.
- ◆ **Sequin Color:** Allows you to show a color for your sequins on screen.
- ◆ **Force North Drop:** Ensures the jump stitches are dropped from north to south. Some machines prefer the jump stitch to have a positive y movement, which means the jump goes from north (top) to south (bottom).

5 Click OK.

## Color Change Sequin

With the Color Change Sequin feature, it is possible to have two sequin colors and/or shapes within the same segment. The two different sequins can be placed on the garment individually (using the Freeplace Sequin tool) or in patterns (with the Sequin and Sequin Fill tools). They can also be dropped one on top of the other, such that the holes of the two sequins line up, and the tack down stitches of the top sequin go through the hole of the bottom sequin.

Color Change Sequin can be applied to sequin segments created with the Sequin, Freeplace Sequin, or Sequin Fill tools.



Color Change Sequin does not support eccentric sequins.

## Using Color Change Sequin with the Sequin and Sequin Fill tools

The process for creating a two color sequin segment is the same as that of a regular Sequin or Sequin Fill segment; you place the path or shape in the same way. The difference is found in the Sequin tab of the property panel, which now has two sets of parameters, one for each sequin feeder.

There are four options for arranging the two sequin types in Color Change Sequin, representing the four potential arrangements of the two sequin types:

- Drop sequin 1 only;
- Drop sequin 1 followed by 2 (1-2);
- Drop sequin 2 only;
- Drop sequin 2 followed by 1 (2-1).

The size, shape and color of each of your sequin types can be set independently; the spacing and tack-down properties are set (in segments where two sequins are dropped) by the whichever value is highest.

Sequin 1	
Sequin tack down diameter	7.0 mm
Sequin spacing	0.0 mm
Sequin count	56
Sequin color	 4
Sequin repeats	0
Sequin size	7.0 mm
Sequin hole size	1.0 mm
Sequin shape	( ◦ ) Circle
Sequin 2	
Sequin 2 tack down diameter	7.0 mm
Sequin 2 size	<b>5.0 mm</b>
Sequin 2 hole size	1.0 mm
Sequin 2 spacing	0.0 mm
Sequin 2 count	56
Sequin 2 color	 10
Sequin 2 repeats	0
Sequin 2 shape	 <b>Diamond</b>

## Using Freeplace Sequin with Color Change Sequin

The Freeplace Sequin  tool can also be used to place Color Change Sequins. Again, the parameters such as size, shape, and tack down diameter are set in the property pages, but in this case, the different possible combinations are set for each sequin placement using keystrokes.

The basic behavior of Freeplace Sequin is the same as it is for a one-color segment; stitch points are placed by clicking, and a sequin is placed by pressing Alt+click.

However, because there are now four different sequin types available, you are able to switch between them using keystrokes. When you make a change in the Freeplace Sequin segment, that change stays in effect until you choose a different type.

The keystrokes used to choose each sequin type are as follows:

To switch to:	Press
Sequin 1	Alt+1
Sequin 2	Alt+2
Sequin 1-2	Alt+3
Sequin 2-1	Alt+4

Using these keystrokes, it is possible to create a single segment that uses all 4 possible combinations of the 2 sequin types.

Another way of switching the type of sequin in a Freeplace Sequin segment is to use the Edit sequin  tool.



Select the sequin with the Edit Sequin tool, and right-click. From the context menu that appears, choose either Sequin 1, Sequin 2, Sequin 1-2, or Sequin 2-1.

## Creating Sequin Patterns

The Sequin Pattern manager (Tools—Manage—Sequin Patterns...), lets you take advantage of the design opportunities afforded by having different sequins available.

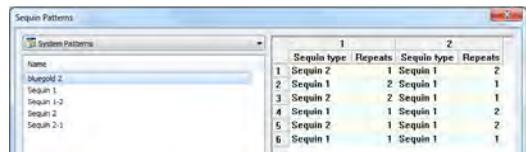
You can customize Sequin and Sequin Fill segments by creating your own patterns using the Sequin Pattern Manager. The pattern may be either one-dimensional (linear) or two-dimensional (grid). A linear pattern can be applied to both Sequin and Sequin Fill segments; grid patterns can only be applied to Sequin Fills. Sequin patterns may contain any combination of sequin types (1, 2, 1-2, or 2-1).

You can create and save as many of these patterns as you wish; once saved, they are available in the Sequin Pattern drop-down list.

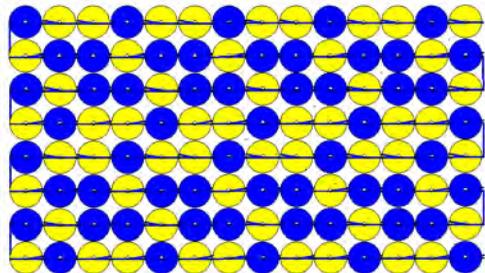
### To create a sequin pattern:

- 1 Choose Tools—Manage—Sequin Patterns...  
*You see the Sequin Pattern Manager dialog.*

- 2 Click New.  
*A new tab opens in the workspace,*
- 3 Select a number of rows for the pattern to have (choose one row only if applying the pattern to a regular Sequin segment).  
*The number of rows in the Pattern Manager dialog expands to the number you specify.*
- 4 Choose a number of sections the pattern will have (a section consists of a Sequin type and number of repeats for that type).  
*The number of sections you specify appears horizontally across the dialog.*
- 5 In the table, assign a sequin type and number of repeats for each section.
- 6 To save the pattern, select File—Save or click the Save icon on the Edit toolbar.  
*You see a Save Sequin pattern dialog.*
- 7 Enter a name for the pattern, and click OK.  
*The new pattern you have created will now be listed in the Sequin Pattern drop-down list. Selecting the name will cause it to be applied to a selected Sequin or Sequin fill segment.*



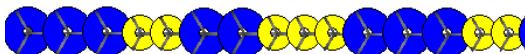
Above, the Sequin Pattern Manager dialog, showing a saved pattern. Below, an example of a fill segment created from that pattern.



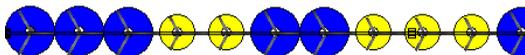
## Fit to Box

If your Color Change Sequin pattern has sequins of different sizes, the spacing will be affected. To force the sequins to be evenly spaced in spite of the different sizes, check 'Fit to Box' at the lower-left of the property page. This will make the spacing of the small sequin match up to the size of the larger, so that the spacing throughout the segment will be even.

As an example, look at the sequin patterns illustrated below. In the upper example, "Fit to box" has not been checked, and the spacing of the sequins is proportional to their diameter - thus, the smaller sequins are closer together. In the lower example "Fit to box" has been checked, and the sequins are all spaced evenly.



"Fit to Box" not checked



"Fit to Box" checked

## Creating Color Change Sequin Segments with the Command Dialog

You can add a second sequin type to an existing design with a sequin segment in it. This is done through the command dialog, by entering stitch select mode, selecting the Drop Sequin command, and changing it to a Drop Sequin 2 command.

### To add a second sequin type to an existing sequin segment:

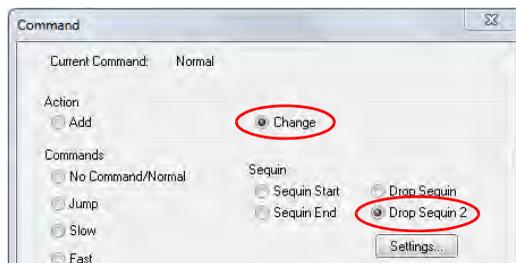
- 1 Select a conventional (that is, one-color) sequin segment.

- 2 Change to stitch select mode (select the Stitch Select tool, or press M).
- 3 Click in the center of the sequin that you want to change, to select the Drop Sequin command.



Since there are many stitches coming together in the middle of the sequin, it can be difficult to select the Drop Sequin command immediately. If this is the case, you can select a nearby stitch in the segment, and navigate stitch-by-stitch until you reach the correct command ('Drop Sequin' will appear in the status bar).

- 4 Right-click, and choose Command from the context menu.  
*You see the Command dialog.*
- 5 Click the appropriate radio buttons to select Change and Drop Sequin 2.



- 6 In the Command dialog, click Settings to open the Sequin Settings dialog.
- 7 In the Sequin Settings dialog, under "Sequin 2" enter the various characteristics of the number 2 sequin; diameter, hole size, color, and shape.
- 8 Click OK to close this dialog, then OK to close the Command dialog.

- Repeat steps 3-8 for each sequin that you want to change.

When the sequin settings are done your design must be saved in \*.TBF format in order that it be output correctly; saving as \*.DST will cause all the Drop Sequin 2 commands to be lost, since the latter format does not support Drop Sequin 2 commands.



## Applying Sequin Modifier

The Sequin Modifier  tool is used to create a separate area within the borders of an existing Sequin fill segment, which can have a different sequin pattern; that is, if the original fill segment consists of the Sequin1 fill type, the area defined by the Sequin Modifier can be changed to a Sequin 2, Sequin1-2, or Sequin 2-1 type fill.

### To add a Sequin Modifier to a Sequin fill segment:

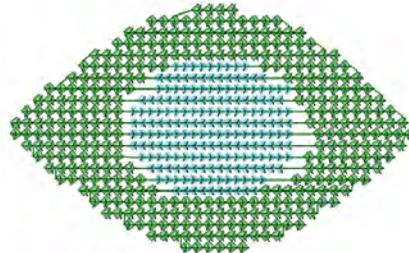
- Open a design with a Sequin fill in it, or create a Sequin fill in the current design.
- From the Sequin toolbar, select the Sequin Modifier  tool.
- Within the boundaries of the Sequin fill segment, click in the workspace to create anchor points in the desired shape.
- Press O to close the Sequin Modifier shape.



Alternatively, you create an artwork shape with one of the Artwork tools (e.g. the Pen tool), and then use the Convert tool to change it into a Sequin Modifier.

- To apply the desired sequin pattern to the modified area, do the following:
  - On the properties panel, select the Sequin Modifier tab.

- From the drop-down list, select the desired pattern – Sequin 1, Sequin1-2, Sequin 2-1, or Sequin 2.
- Using the Select tool, select the original Sequin fill segment.
  - Press G to regenerate stitches.  
*The Sequin Modifier will now show the selected pattern.*

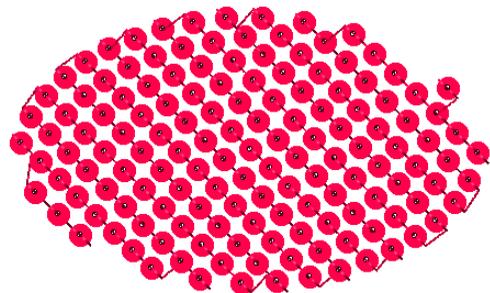


## Sequin Fill Brush

The Sequin Fill Brush  tool can be used to change the style of Color Change Sequin that will be generated in a part of the fill segment. With this tool, you can select just some of the sequins (e.g., a line or an area of the fill) and change their Color Change Sequin type simply by clicking and dragging with the mouse.

### To use Sequin Fill Brush:

- Create (or open) a design containing a Color Change Sequin segment.

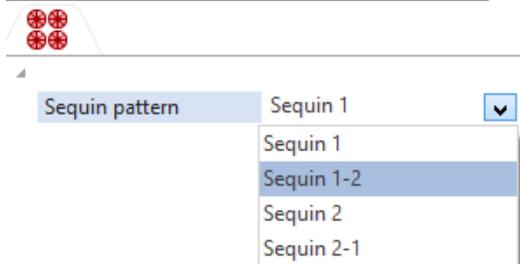


- 2 On the Sequin toolbar, select the Sequin

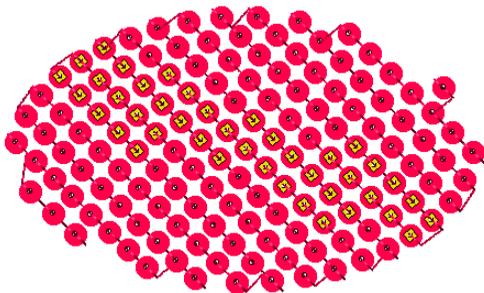
Brush  tool.

*In the properties panel, you see the Sequin Paint Brush tab.*

- 3 On the Sequin Paint Brush tab, click in the Sequin Pattern Field to open the list of Color Change Sequin styles.



- 4 Select the style you want to apply from the list.
- 5 In the workspace, click and drag across the sequins you want to change.  
*The sequins will be highlighted as you select them.*
- 6 Press **Enter**.  
*The selected sequins will be changed to the new Color Change Sequin style.*



## Lochrose Tools

In the Lochrose option, three tools are available for placing Lochrose sew-on stones into embroidery designs. These stones are placed and 'tacked down' in a manner similar to sequins; that said, it is important to know that there are significant differences in the parameters of the tack down stitches. There are three different tools relating to these stones:

- **Lochrose Freeplace** : This tool allows you to place stones as part of a run sequence, using any of the applicable digitizing modes (Bezier, Quickdraw). The spacing of the run stitches, and other parameters (such as lock stitches) are determined automatically through the properties panel.
- **Manual Lochrose** : Works very much like the Manual Stitch tool, in that needle penetrations are placed wherever you click; however, when the Manual Lochrose tool is active, hitting the Tab key will place a Lochrose stone along the path with the next click. Tack-down and lock stitches are not created automatically, and must be punched individually by the digitizer.
- **Edit Lochroses** : This tool allows for the editing of Lochrose stones on completed Freeplace Lochrose segments (does not apply to Manual Lochrose segments). Stones may be added, deleted, or moved along the path with the Edit Lochroses tool.

## Placing Freeplace Lochroses

The Freeplace Lochrose  tool allows you to digitize a segment while placing stones along the segment. This works much like the manual digitizing tools, except that you can place stones by holding down the **Alt** key while digitizing.

The Freeplace Lochrose tool creates a segment that includes the both the Lochrose placement stitches and the tack down stitches.

### To use the Freeplace Lochroses tool:

- 1 Select the Freeplace Lochroses  tool.
- 2 Choose a drawing mode for creating your path.



QuickDraw or Bezier modes work best when placing Lochrose stones. For more information on drawing modes, see Using Paths—Drawing Lines.

- 3 Create the path as usual by clicking to place anchor point; press the **Alt** key at each point that you want to place a stone. *You see a path with “ghost outlines” where the Lochroses have been placed.*



To place a stone at every anchor point, hold down **Alt** while clicking.

- 4 To add additional Lochrose stones between anchor points on the path, hold down the **Alt** key while clicking on the path.
- 5 Press **ENTER** to complete the segment.

## Editing Lochroses

Use the Edit Lochrose tool to move, add, or delete stones on existing Freeplace Lochrose segment.

The Edit Lochroses tool may be used to edit the stones on a manual stone segment individually. Edit Lochrose allows you to move stones along an existing path, as well as add or delete stones from the path.

### To move a stone using the Edit Lochroses tool:

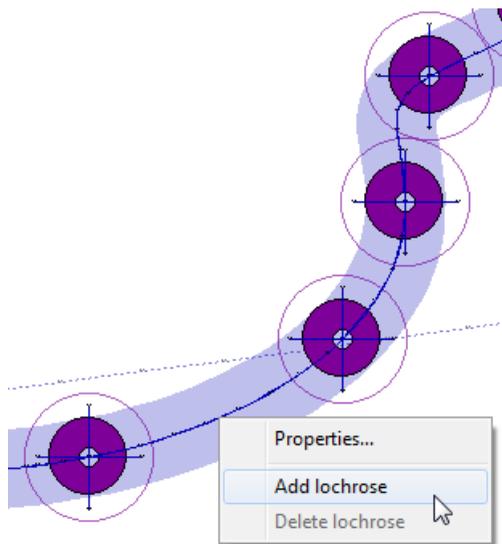
- 1 Select the Edit Lochrose  tool. *A sequin icon appears next to the mouse pointer.*
- 2 Move the pointer close to the center of the stone, so that you see the pointer change to an arrowhead shape.
- 3 Click on the stone and drag it along the path to the desired position.
- 4 Press **G** to regenerate stitches. *You see the stone in the new location.*

To view the change in the stone's position immediately, you can choose to generate stitches automatically. On the Ribbon, select Tools—User Settings and select Stitch Generation. Check the Generate stitches after editing beads box.



### To add a stone to a Freeplace path:

- 1 Select on the Edit Lochrose  tool. *A Lochrose icon appears next to the mouse pointer.*
- 2 Move the pointer over the path.
- 3 Right-click on the path. *You see a context menu.*



- 4 From the shortcut menu, choose Add Lochrose.

*The new Lochrose appears on the Freeplace Lochrose path.*

#### To delete a stone from a Freeplace Lochrose path:

- 1 Select the Edit Lochrose  tool.  
*A Lochrose icon appears next to the mouse pointer.*
- 2 Move the pointer close to the center of the stone, so that you see the pointer change to an arrowhead shape.
- 3 Right-click on the stone.  
*You see a context menu.*
- 4 Choose Delete stone from the context menu.  
*The stone is deleted from the path.*

## Creating a Manual Lochrose Segment

If you have a machine with the capacity, you can place Lochrose stones onto designs by using the Manual Lochrose tool.

The tool works by toggling back and forth between two modes - placing manual stitches (just like using the Manual stitch tool) and dropping stones. The tool starts out in the stitch mode, and you toggle into the “Drop Lochrose” mode by pressing the Tab key. After each sequin is placed, the tool automatically switches back to manual mode, so that the tack-down stitches may be placed.

#### To use the Manual Lochrose tool:

- 1 In the Digitizing toolbar, click the Manual Lochrose  tool.
- 2 Click the design workspace to place the anchor points (manual stitches).
- 3 To change into drop stone mode, press and release the **Tab** key.  
*The cursor changes to an outline of a stone.*
- 4 Move the stone outline to the desired position and left-click.  
*The stone is placed on the design, and the cursor changes back to a cross, showing that you are again in manual stitch mode.*
- 5 Use the manual mode to place tack-down stitches between the edge of the stone and the center.
- 6 Proceed to the next location where you wish to place a stone, and repeat steps 2-5 until all stones are placed.
- 7 Press **ENTER** to complete the segment.

## Lochrose segment settings

The following section describes those settings that are specific to Lochrose stone segments. These settings may be viewed, and modified, by opening the properties panel.

Depending on which type of settings you want to change, you will find these under the

Lochrose 🌟 tab or the Connections 🔗 tab.

**Lochrose size:** Sets the diameter of the Lochrose stone.

**Tack down diameter:** Determines the extent of the tack down stitches.

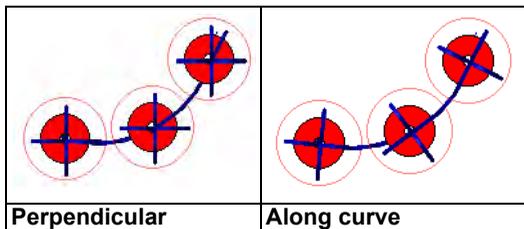


Note that the diameter is determined by the following formula: Tack down = Lochrose size + Hole size + Security value. Therefore, if you change any of those three settings, the value of the tack-down diameter will change accordingly.

**Hole size:** Determines the size of the center hole of the Lochrose stones; the default setting is 1.7 mm.

**Security value:** This is a small value that is added to the tack-down stitch length, to ensure that there are no needle strikes on adjacent stones. The default is 0.5 mm (which is also the minimum value for this parameter).

**Lochrose tack-down direction:** Determines direction that the tack-down stitches are placed relative to the run stitch - choose either **Along Curve** or **Perpendicular**.

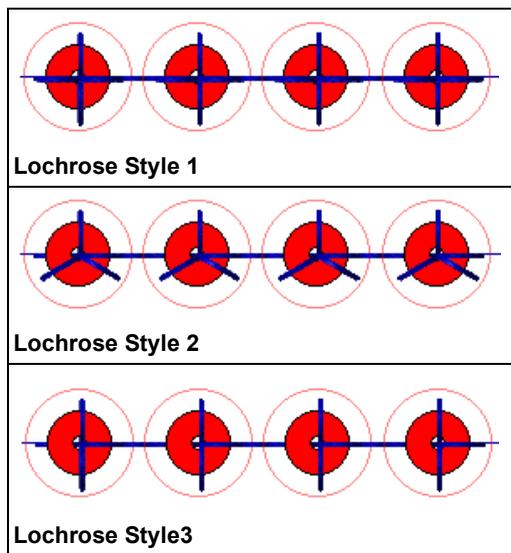


**Lochrose color:** Shows the preview color of the Lochrose stones; note that the list of available colors will be based on the current thread chart.

**Repeats:** Number of times the tack-down stitches of each stone are sewn (default to 1).

**Count:** This is not a setting; displays the number of stones contained in the selected segment.

**Lochrose style:** The style determines the arrangement of the tack-down stitches. There are three available styles - the difference being in the number of tack down stitches that are applied, and the orientation along the line of the segment; see diagram, below.

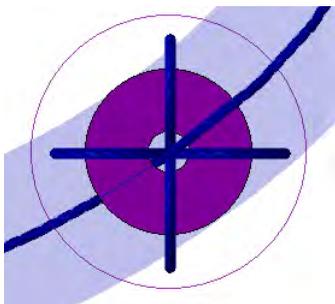


**Lochrose run stitch length:** Length of the stitches in the run connections between stitches.

**Min. lochrose run stitch length:** Any stitches that are below this length will be filtered out during stitch generation.

**Max. lochrose run chord gap distance:** The maximum difference allowed between the digitized curve drawn by the digitizing tool, and any individual stitch in the run stitches of the lochrose segment.

**Guide offset:** The guide offset represents the distance between the extent of the Lochrose tack down diameter and the guide circle. The guide circle is there to assist you when editing Lochrose segments using the Edit lochroses tool, to ensure that the tack down stitches of one stone do not hit an adjacent stone.



*Detail of a Lochrose segment showing the guide diameter. Note the small gap between the edge of the tack-down stitches and the guide - this distance is determined by the "Guide Offset" setting.*

## Lochrose Connection Settings

**Lochrose Lock stitches:** Lochrose lock stitches, unlike regular lock stitches, apply to every individual stone in the segment.

They can be applied to the start or end of each lochrose stone placement, or both. If you apply "start lock", they will be placed in the center of each stone, before the stone is placed. If you apply "end lock", the lock stitches will be placed after the last tack down stitch of the stone.



You can also apply ordinary lock stitches to the Lochrose segment. However, in contrast with the Lochrose lock stitches, these apply only to the beginning and end of the run.

### Adding Lochrose lock stitches:

- 1 Select the segment.
- 2 In the Segment Settings pages, select the Connections tab.
- 3 In the Lochrose start lock box, select the type of start lock stitch.
- 4 In the Lochrose start lock stitch length, set the stitch length for the start lock stitches.
- 5 In the Lochrose end lock field select the type of end lock stitch you want applied to your segment: (Basic, Line, Triangle, or Diamond).
- 6 In the Lochrose end stitch length field, enter a stitch length for lock stitches.

**Lochrose "Trim at" distance:** If there is a significant separation between each stone in the lochrose segment, you can save stitches by inserting automatic trims into the Lochrose segment.



The distance used to determine if a trim is inserted is the distance between the last tack down penetration point of one Lochrose stitch, and the center point of the next one.

### To set up automatic trims in the Lochrose segment:

- 1 In the Select the segment.
- 2 In the Segment Settings pages, select the Connections tab.
- 3 In the "Lochrose Connections" area, check the box in the "Lochrose connection trim at" field.  
*The "trim at distance" field becomes active*
- 4 Set the trim at distance; this determines the minimum distance at which a trim will be inserted between Lochrose stones.

# Working with Chenille

## Creating Chenille TrueType® Lettering

You can create Chenille TrueType® lettering and then add the Lattice or Spiro Chenille Fills to the lettering. The TrueType® lettering tools used in Chenille are the same tools used in other levels of Tajima DG16 by Pulse including Line Angle, Bridge—Flat Top, Bridge—Flat Bottom, and Bridge—Double. Generally, Chenille lettering looks better when you use a thick font. Some recommended fonts for Spiro TrueType® lettering are Batman Black, Arial, and Playbill.



Because TrueType® fonts were created for printing, the lettering may look different when it is sewn out.

### To create Chenille TrueType® lettering:

- 1 Select your TrueType® lettering.
- 2 In the Segment Settings pages, select the Text tab.
- 3 In the Fill Type list, select Lattice Chenille or Spiro Chenille.
- 4 Click OK.

## Tajima Chenille File (\*.CC0) Support

Tajima DG16 by Pulse supports Tajima Chenille files (\*.CC0). This file automatically programs the needle sequence when a \*.DST file is loaded into the Tajima Chenille machine. The file contains the following information about Chenille embroidery designs: needle number, type (chain or moss) and height. You should consult your Tajima supplier to see if your Tajima Chenille machine will read \*.CC0 files. Not all Tajima Chenille machines support the \*.CC0 file format.

### To create a \*.CC0 file:

- 1 Open an existing file containing Chenille segments.
- 2 To create a \*.CC0 file using the File—Save As menu, complete the following:
  - ♦ Choose File—Save As.
  - ♦ In the Save As type list, select the Tajima \*.DST file format.
  - ♦ In the Machine Format box, select the Tajima Chenille machine format.



If you choose any other machine format, the \*.CC0 file will not be generated.

The \*.CC0 file will have the same name as the Tajima \*.DST file but will have a \*.CC0 file extension.

- ♦ Click Save.
- 3 To create a \*.CC0 file using the Input/Output Wizard to output designs, see the section on "Outputting a design to an embroidery machine or disk".
  - 4 Load the Tajima \*.DST file onto a floppy disk and into your Tajima Chenille machine. The \*.CC0 file must be on the floppy disk along with its \*.DST file.

## Creating Lattice Chenille Path Segments

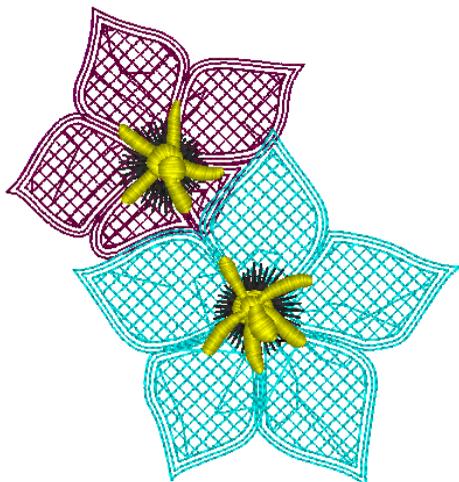
Lattice Chenille path segments now utilize a new stitch engine. You can generate Chenille faster than before while also minimizing travel stitches for better stitch quality. The enhanced Lattice Chenille segment settings dialog has been expanded, adding more flexibility and control to your Chenille embroidery designs.

The Lattice Chenille **XX** tool creates a cross-hatched moss stitch that looks like a diagonal grid. However, when the stitch is sewn, you cannot see this pattern. The Lattice Chenille tool creates Lattice Chenille path segments

using Bezier curves and all the advanced Bezier modes such as Freehand and Arc.



For more about digitizing a segment using Bezier curves, see "Creating Bezier Curves".



To begin creating Lattice Chenille path segments in Tajima DG16 by Pulse, you should know how to do the following:

- Access Lattice Chenille segment settings
- Create stitches before the Fill
- Create Moss Fill stitches
- Create stitches after the Fill
- Adjust Chain and Moss Path settings
- Punch a Lattice Chenille segment

### Step 1: To open and adjust lattice chenille segment settings

- 1 From the Chenille toolbar, select the Lattice Chenille  tool.
- 2 In the properties panel, and select the Chenille Tab.
- 3 Display the properties dialog by clicking the Open properties panel  button.  
*You see the Chenille properties panel.*



- 4 Make changes to settings (see the following steps).

### Step 2: To create stitches before the Fill

The following procedures occur within the Before Fill area and apply to each line of run chenille stitching that will be sewn.

- 1 In the Type list, select one of the following stitch types that will be sewn:
  - ♦ **Chain.** Sews chain style stitching in a swirling pattern.
  - ♦ **Moss.** Sews moss style stitching in a lattice grid pattern.
  - ♦ **None.** Select None if you do not want to apply a stitch type. The settings beside the Type list will be disabled and no stitches will be sewn for this row.
- 2 In the **Stitch** box, enter the stitch length for the Moss and/or Chain stitch runs before the fill. This setting determines the distance between needle penetrations.



If the chosen stitch length is too long, Tajima DG16 by Pulse will ignore it and the previous setting will be maintained.

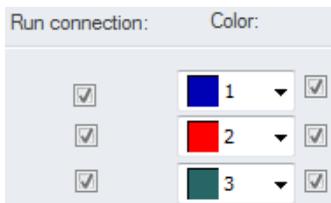
- 3 In the **Offset** box, enter the distance the run will be offset from the segment outline. A positive offset value will place the line inside of the segment outline. A negative offset value will place the line outside of the segment outline.
- 4 In the **Height** box, enter the loop height of chenille moss stitching. The height value has no effect on the

stitch generation of the Chenille. This value is stored in the Tajima \*.CC0 file and can be read by certain Tajima Chenille machines. For more information, see "Tajima Chenille file (\*.CC0) support".

- 5 Check the **Run Connection** box if you want to generate a run stitch between adjacent lines of Chain or Moss walk stitches.
- 6 By default, all the chain and moss segments will be set to the same color as the lattice. However, you can choose colors for these segments individually in the Chenille settings. To choose a different color for a Chain or Moss walk, do the following:

- ◆ Click the checkbox on the right side of the Color column.

*The color choice box (immediately to the right) will become active.*



- ◆ Click the down arrow next to the color choice box. This will display a list of all the colors in the active palette.
  - ◆ Select a new color from the list of thread colors available.
- 7 To complete your Lattice Chenille path segment, click OK and go to Step 6.
  - 8 To add Fill or After Fill stitches to your Lattice Chenille path segment, go to the appropriate steps.

### Step 3: To create Moss Fill stitches

The following settings can be adjusted on the Segment Settings page, under the Chenille tab or the Chenille Effects tab.

- 1 In the Type box, select one of the following stitch types that will be sewn:
  - ◆ **Contour.** Sews chain style stitching in a spiral pattern, parallel to the border. If contour is selected, the following setting becomes available:
    - ◆ In the Contour area of the Selection settings, enter the density of the chain fill stitching in the Contour Spacing box. This setting adjusts the distance between each line of chain swirls.
    - ◆ In the Lattice section of the Selection settings, check **Use automatic sewing order** to have sewing order of Chains modified whenever the sewing can be optimized. When this setting is disabled, the sewing ordered specified in the Chenille settings will be used without deviation.
  - ◆ **Lattice.** Sews moss style stitching in a lattice grid pattern. If selected, the following settings will be available on the selection settings under Lattice:
    - ◆ In the Line Spacing box, enter the density of the moss fill stitching. This setting adjusts the distance between each row of lattice.
    - ◆ Under the Chenille Effects tab, select **Minimize cross runs for lattice** to have a minimum amount of moss runs crossing each other while sewing the moss fill. Moss runs will be sewn between moss lattice rows as much as possible. When this setting is disabled, some moss runs and lattice rows will cross each other while sewing the moss fill.
    - ◆ In the Lattice section, check **Use automatic sewing order**, to have

the sewing order of Mosses modified whenever the sewing can be optimized. When this setting is disabled, the sewing ordered specified in the Chenille settings will be used without deviation.

- ♦ **Spiro.** Sews Spiro style stitching in a spiral pattern, parallel to the segment border.
  - ♦ In the Spiro Density box, enter density you want for the Spiro Chenille stitches.



Density is measured per square cm. The default is 70/square cm.

- ♦ In the Lattice section of the Selection settings, check **Use automatic sewing order** to have sewing order of Chains modified whenever the sewing can be optimized. When this setting is disabled, the sewing ordered specified in the Chenille settings will be used without deviation.
- ♦ **None.** Select None if you do not want to apply a stitch type. The settings beside the Type list will be disabled and no stitching will be sewn.



Selecting None is useful if you want to manually create a Fill.

- 2 In the **Stitch** box, enter the stitch length for the selected fill.
- 3 In the **Offset** box, enter the distance that the outer fill edge will be offset from the segment outline. A positive offset value will place the outer edge inside of the segment outline. A negative offset value will place the outer edge outside of the segment outline.
- 4 In the **Height** box, enter the loop height of chenille moss stitching. The height value has no effect on the stitch generation of the Chenille. This

value is stored in the Tajima \*.CC0 file and can be read by certain Tajima Chenille machines. For more information, see "Tajima Chenille file (\*.CC0) support".

- 5 To complete your Lattice Chenille path segment, click OK and go to *Step 6: To punch a Lattice Chenille segment.*
- 6 To add Before Fill or After Fill stitches to your Lattice Chenille path segment, go to the appropriate steps.

#### Step 4: To create stitches after the Fill

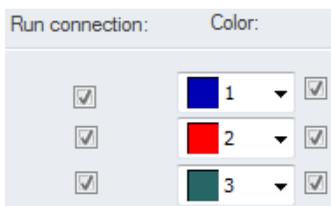
The following settings can be adjusted on the Chenille tab of the Segment Settings page, in the After Fill area. These settings apply to each line of run chenille stitching that will be sewn.

- 1 In the **Type** list, select one of the following stitch types that will be sewn:
  - ♦ **Chain.** Sews chain style stitching in a swirling pattern.
  - ♦ **Moss.** Sews moss style stitching in a lattice grid pattern.
  - ♦ **None.** Select None if you do not want to apply a stitch type. The settings beside the Type list will be disabled and no stitching will be sewn for this row.
- 2 In the **Stitch** box, enter the stitch length for the Moss and/or Chain stitch runs after the fill.
- 3 In the **Offset** box, enter the distance the run will be offset from the segment outline. A positive offset value will place the line inside of the segment outline. A negative offset value will place the line outside of the segment outline.
- 4 In the **Height** box, enter the loop height of chenille moss stitching. The height value has no effect on the stitch generation of the Chenille. This value is stored in the Tajima \*.CC0 file and can be read by certain Tajima Chenille

machines. For more information, see "Tajima Chenille file (\*.CC0) support".

- 5 Check the **Run Connection** box if you want to generate a run stitch between adjacent lines of Chain or Moss walk stitches.
- 6 By default, all the chain and moss segments will be the same color as the lattice fill. You can choose colors for these segments individually on the Chenille Settings. To choose a different color for a Chain or Moss walk, do the following:
  - ◆ Click the check box on the right side of the Color column.

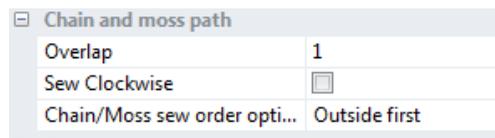
*The color choice box (immediately to the left) will become active.*



- ◆ Click the down arrow next to the color choice box. This will display a list of all the colors in the active palette.
  - ◆ Select a new color from the list of thread colors available.
- 7 To complete your Lattice Chenille path segment, click OK and go to *Step 6: To punch a Lattice Chenille segment*.
  - 8 To add Before Fill or Fill stitches to your Lattice Chenille path segment, go to the appropriate steps.

### Step 5: To adjust Chain and Moss Path settings

To adjust these settings, click on the Chenille Effects tab of the Segment Settings dialog. These settings apply to each line of chain and moss stitching that will be sewn.



- 1 In the **Connecting Overlap** box, enter the number of stitches that will overlap on top of the moss or chain run before it continues to the next set of chenille stitching. This setting helps to prevent gaps in the chain or moss before switching to the other type of chenille stitching. For example, if you set the overlap value to 3, the chain run will overlap itself by 3 stitches just before it switches and begins sewing the next section of chain or moss stitching.
- 2 Select **Sew In Clockwise Direction** to force all chain or moss runs to sew in a clockwise direction. When this setting is not selected, chain and moss runs will sew in a counter-clockwise direction.
- 3 Select the order in which you want the sewing of the Chenille segment to take place; you can choose from among three options in the **Chain/Moss Sew Order** drop down list. These are:
  - ◆ **By Type** – In this setting, the chain stitches are sewn so that all outside chains are sewn separately (even when the shape is not connected). When multiple chain stitches are used, all of the first chain stitches will be sewn before the second chain is started. When sewing multiple color chain stitches, this option will ensure that the second color will not be seen underneath the moss stitches. Outline Chenille fonts can be used with this setting.
  - ◆ **Optimized** – This setting will generate chain and moss walk stitches that go

from the outside to the inside of shapes at points closest to the holes. This setting is identical to unchecking the option “Complete Outside Chain/Moss First” in previous versions of Tajima DG16 by Pulse. This setting is useful when working with Chenille script lettering.

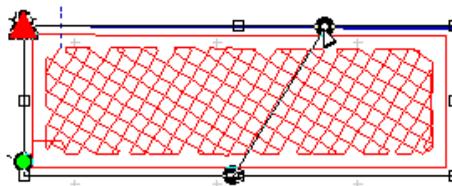
- ◆ **Outside First** – This setting will generate chain and moss walk stitches so that all of the outside chain and moss stitches are sewn first. This is the default behavior and is identical to checking the option “Complete Outside Chain/Moss First” in previous versions of Tajima DG16 by Pulse.

- 4 Select Always Run, if not already selected, to stitch runs among outline and holes for chains and moss. When this setting is not selected, no runs will be stitched among outline and holes for chains and moss.
- 5 To complete your Lattice Chenille path segment, click OK and go to *Step 6: To punch a Lattice Chenille segment*.
- 6 To add Before Fill, Fill or After Fill stitches to your Lattice Chenille path segment, go to the appropriate steps.

### Step 6: Digitizing a Lattice Chenille segment

- 1 To punch a Lattice Chenille segment, do one of the following:
  - ◆ To create an open segment, click the design workspace to place the anchor points in your design.
  - ◆ To create a closed segment, click the design workspace to place the anchor point in your design and press O to close the segment.
- 2 Press **ENTER** to complete the Lattice Chenille segment.  
*The cursor displays a green start bead next to it.*

- 3 Place the start bead by clicking on the segment.  
*The cursor displays a red stop bead next to it.*
- 4 Place the start bead by clicking on the segment.  
*The cursor displays an angle line bead next to it.*
- 5 To determine the angle of the lattice in the segment, draw a line by clicking on one side of the segment and dragging to the other side of the segment.



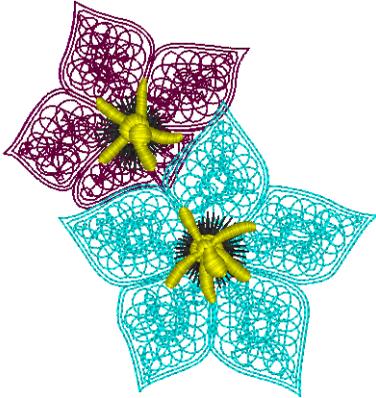
- 6 Press **G** to generate the stitches.  
*The angle of the lattice changes to parallel the angle line.*
- 7 To change the properties of the Lattice Chenille segment, select the segment and do one of the following:
  - ◆ On the ribbon, adjust the settings and press **ENTER**.
  - ◆ Double-click the selected segment and make appropriate changes to settings in the Segment Settings property pages. Click OK.

In the Segment Settings, you can also add or remove stops at the beginning of chenille segments. To remove stop commands at the beginning of a chenille segment, select Omit chenille command at the beginning of segments from the Commands property page and click OK.



## Creating Spiro Chenille Path Segments

The Spiro Chenille  tool creates a spiraling moss path segment using Bezier curves. The following is a description of the various settings that may be adjusted for a Spiro Chenille segment.



### To create Spiro Chenille segments:

- 1 From the Chenille toolbar, click the Spiro Chenille  tool.
- 2 In the properties panel, choose Selection settings, and modify any of the following:
  - ◆ In the Start Command and Stop Command lists, select the machine commands you want to use.
  - ◆ In the Chain Length box, enter the stitch length you want for the Chain stitches.
  - ◆ In the # of Chains box, enter the number of Chains you want to use to border the fill.  
*The default is one.*
  - ◆ In the Moss Length box, enter the stitch length that you want for the Moss segment.

- ◆ In the # of Moss, enter the number of Moss segments you want to use to border the Fill.

*The default is one.*

- ◆ Check Insert Extra Stop codes to automatically insert stops after each Moss and Chain run.



The stop code lets you adjust the needle and other settings. In addition, the thread is trimmed when you select the Insert Extra Stops box.

- 3 In the **Auto Hole** area, adjust the settings for the Auto Hole in the segment (if you are creating an Chenille segment. See the following section, “Creating Holes in Chenille Segments.”)
- 4 In Segment Settings dialog, adjust any of the following:
  - ◆ **Single pass spiro fill:** By default, the Spiro Chenille fill will sew over an area twice, if needed, to completely and evenly fill it. However, if you prefer to generate the fill with just one pass, check **Single pass spiro fill**.
  - ◆ In the Spiro Density text box, enter density you want for the Spiro Chenille stitches.



Density is measured per square centimeter. The default is 70 per square centimeter.

- 5 To punch a Spiro Chenille segment, do one of the following:
  - ◆ To create an open segment, click the design workspace to place the anchor points in your design.
  - ◆ To create a closed segment, click the design workspace to place the anchor point in your design and press O to close the segment.
- 6 Press **ENTER** to complete the segment.

## 7 Click OK.

On the Segment Settings pages, you can also add or remove stops at the beginning of chenille segments. To remove stop commands at the beginning of a chenille segment, select Omit chenille command at the beginning of segments from the Commands property page and click OK.



## Creating Holes in Chenille Segments

Auto hole is a new feature available for Chenille and Spiro Chenille segments. The Auto Hole feature creates a “cut out” (that is, an area without stitches), using another embroidery segment as a template. For example you can use this feature to allow a text segment to be placed in the middle of the Chenille, without having it overlap the Chenille.

The Auto Hole generation process also adds a moss walk segment on the inside of the hole shape that is generated.

The segment that you use to create the hole (here referred to as the embedded segment) may be placed beneath, or on top of, the Chenille segment.

You may even use this feature to create holes from more than one segment at the same time.



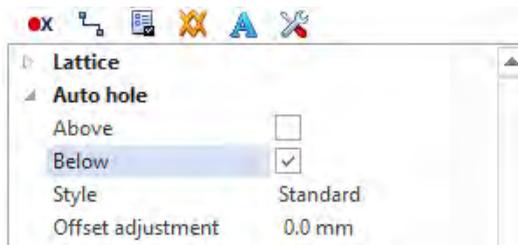
If the segments are on either side of the Chenille segment in the sewing order, check both “Above” and “Below” in the Using Segments area of the dialog.

### To add an automatic hole to a Chenille segment:

- 1 Select the segment you want to use to create the hole shape.
- 2 Click and drag to position this segment where you want to create the hole in the chenille segment.
- 3 Select the Chenille segment.

4 On the Segment Settings dialog, select the Chenille Effect tab.

5 In the Auto Hole area of the Chenille Effects tab, adjust the following settings.



- ◆ Click the Above or Below checkboxes (or both) to determine which segment to use to create the hole in the Chenille.
- ◆ Select one of the following styles from the style box.
  - ◆ **Box:** The shape of the hole goes all around the outside of the segment, without filling in small gaps. The edges of the hole, at top and bottom, are kept horizontal.



- ◆ **Standard:** The hole follows the contours of the segment more closely than in the Box style. The outline of the hole is not always kept horizontal, but may curve to follow the outline of the embedded segment.



- ♦ **Offset:** The hole closely follows the contours of the embedded embroidery. If there are gaps in the segment (for example, spaces between letters in a line of text), the moss chain and the Chenille will expand to fill them.



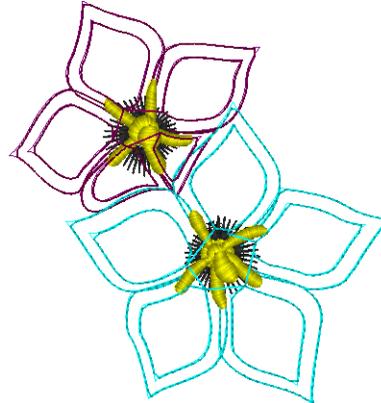
- ♦ (Optional) Type an amount of offset (in mm) into the offset adjustment field. A positive number will increase the space between the embedded segment and the Chenille segment (and moss walk) which it is in.

It is also possible to enter a negative offset. This will potentially cause the embedded segment to overlap the Chenille, or vice versa (depending upon which is first in the sewing order).



## Creating Chain Walk Path Segments

The Chain Walk  tool creates a chain walk stitch path segment using Bezier curves and all the advanced Bezier modes such as Freehand and Arc. A Chain stitch is similar to a Run stitch in standard embroidery.



### To create Chain Walk segments:

- 1 From the Chenille toolbar select the Chain Walk  tool.
- 2 In the segment properties panel, modify any of the following settings:
  - ♦ In the Start Command and Stop Command lists, select the machine commands you want to use.
  - ♦ Select Omit Starting Chenille Command to ensure a Chenille command will not be inserted at the beginning of the segment.
  - ♦ In the Chain Length box, enter the stitch length you want for the Chain stitches.
  - ♦ In the Drop Stitch box, choose At Anchor or None. At Anchor will make the stitches follow the points as they are regardless of the stitch length.

- From the Height list, select the Chenille Chain height value you want stored in the Tajima \*.CC0 file. This value has no affect on the stitch generation of the Chenille.

There are a few exceptions when a chenille segment follows another chenille segment.

1) In the first segment, the last chenille is the same type and height as the first chenille in the next segment. Then the following exceptions apply:

- If “Omit Starting Chenille Command” is set on the second segment, no initial Chain or Moss command should be at the start of the second segment.
- If “Omit Starting Chenille Command” is not set on the second segment, then the second segment should have an initial Chain or Moss command.

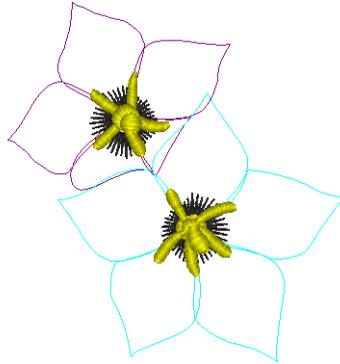
2) In the first segment, the last chenille is a different type or height as the first chenille in the next segment. Then there should always be a Chain or Moss command at the start of the second segment. This exception applies even if “Omit Starting Chenille Command” is set.



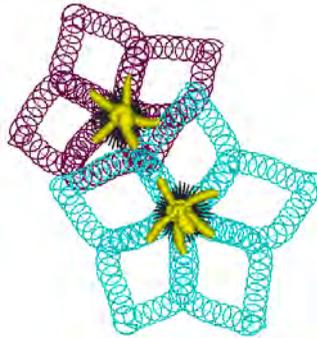
- To punch a Chain Walk segment, do one of the following:
  - To create an open segment, click the design workspace to place the anchor points in your design.
  - To create a closed segment, click the design workspace to place the anchor point in your design and press O on your keyboard to close the segment.
- Press **ENTER** to complete the Chain Walk segment.

## Creating Moss Walk Path Segments

The Moss Walk  tool creates a standard or a swirl Moss Walk path segment, using Bezier curves. Define the stitch length, and use Moss Walk to generate moss stitches that follow a curved path.



*Standard Moss Walk*



*Swirl Moss Walk*

### To create standard Moss Walk path segments:

- Select the New  tool to create a new design.
- Select the Moss Walk  tool.

- 3 In the segment properties panel, modify any of the following settings:
  - ◆ In the Start Command and Stop Command lists, select the machine commands you want to use.
  - ◆ In the Moss Length box, enter the stitch length that you want for the Moss segment.
  - ◆ In the Drop Stitch box, choose At Anchor or None. Choosing At Anchor will make the stitches follow the points as they are, regardless of the stitch length.
  - ◆ From the Height list, select the Chenille Moss loop height value you want stored in the Tajima CC0 file. This value has no effect on the stitch generation of the Chenille.
  - ◆ Select Omit Starting Chenille Command to ensure a Chenille command will not be inserted at the beginning of the segment.

There are a few exceptions when a chenille segment follows another chenille segment.

1) In the first segment, the last chenille is the same type and height as the first chenille in the next segment. Then the following exceptions apply:

- -If "Omit Starting Chenille Command" is set on the second segment, no initial Chain or Moss command should be at the start of the second segment.
- -If "Omit Starting Chenille Command" is not set on the second segment, then the second segment should have an initial Chain or Moss command.

2) In the first segment, the last chenille is a different type or height as the first chenille in the next segment. Then there should always be a Chain or Moss command at the start of the second segment. This exception applies even if "Omit Starting Chenille Command" is set.



- 4 To punch the Moss Walk stitches, do one of the following:
  - ◆ To create an open segment, click the design workspace to place the anchor points in your design.
  - ◆ To create a closed segment, click the design workspace to place the anchor point in your design and press O to close the segment.
- 5 Press **ENTER** to complete the segment.
- 6 To change the properties of the Chain Walk segment, select the segment and do one of the following:
  - ◆ On the ribbon, adjust the settings and press **ENTER**.
  - ◆ Double-click the segment and make appropriate changes to settings in the Segment Settings property pages. Click OK.

*You see the segment altered accordingly.*

### To create swirl Moss Walk path segments:

- 1 From the Chenille toolbar, select the Moss Walk  tool.
- 2 In the segment properties panel, modify any of the following settings:
  - ◆ In the Start Command and Stop Command lists, select the machine commands you want to use.
  - ◆ In the Moss Length box, enter the stitch length that you want for the Moss segment.
  - ◆ In the Pen Radius box, enter the point size you want for the swirl.  
*The default is 40 pt.*
  - ◆ Select the type of swirl you want.
  - ◆ In the Swirl Compression box, enter the percentage you want the swirl compressed.

- ◆ From the Height list, select the Chenille Moss loop height value you want stored in the Tajima CC0 file. This value has no affect on the stitch generation of the Chenille.
- ◆ Select Omit Starting Chenille Command to ensure a Chenille command will not be inserted at the beginning of the segment.

There are a few exceptions when a chenille segment follows another chenille segment.

1) In the first segment, the last chenille is the same type and height as the first chenille in the next segment. Then the following exceptions apply:

- If “Omit Starting Chenille Command” is set on the second segment, no initial Chain or Moss command should be at the start of the second segment.
- If “Omit Starting Chenille Command” is not set on the second segment, then the second segment should have an initial Chain or Moss command.



2) In the first segment, the last chenille is a different type or height as the first chenille in the next segment. Then there should always be a Chain or Moss command at the start of the second segment. This exception applies even if “Omit Starting Chenille Command” is set.

- To punch the Moss Walk stitches, do one of the following:
  - ◆ To create an open segment, click the design workspace to place the anchor points in your design.
  - ◆ To create a closed segment, click the design workspace to place the anchor point in your design and press O to close the segment.
- Press **ENTER** to complete the segment.
- To change the properties of the Chain Walk segment, select the segment and do one of the following:

- ◆ On the ribbon, adjust the settings and press **ENTER**.
- ◆ Double-click the segment and make appropriate changes to settings in the Segment Settings property pages. Click OK.

*You see the segment altered accordingly.*

## Appropriate stitch length and types of thread

The values indicated in the chart are only reference values and they need to be changed according to the cloth and thread that you use. To find the appropriate stitch length and grid size for the combination of cloth and thread that you use, it is recommended that you make a sample in a 5 cm x 5cm area.

Thread	Rayon	Rayon 450/2	Cotton Thread 12/2 (440d/2)	Wool 242 (375d/2)	Wooly Yarn
Chain stitch length	2.0 to 3.2 mm	3.0 to 4.8 mm	About 2.3 mm	About 2.0 mm	1.8 to 2.2 mm
Loop stitch length	1.5 to 1.7 mm	2.3 to 2.6 mm	About 2.1 mm	About 1.7 mm	About 1.6 mm
Grid size	1.5 x 1.7 mm	2.3 x 2.3 mm	1.5 x 1.5 mm	1.8 x 1.8 mm	1.7 x 1.7 mm

## Adding Cut Outlines to Chenille segments

The new Cut Outline option creates an outline (or outlines) around a Chenille segment. This outline is an Artwork (i.e., vector graphic) segment that matches the edge of the selected Chenille, but is offset by a small distance.

The Chenille Cut Outline will be offset based on the outline of the Chenille segment, rather than the edge of the stitches of the Chenille.



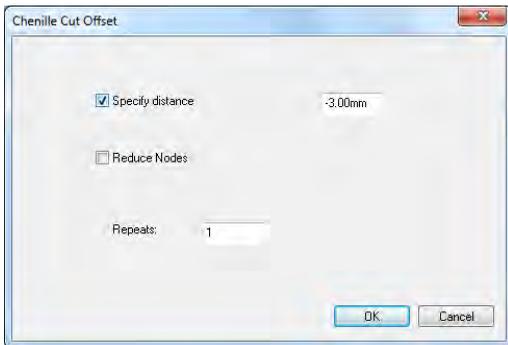
Any chain, moss, or lattice stitches of the segment may already have a degree of offset from this outline, based on the settings in the Chenille properties. So, you may have to take these offsets into account when adding your Cut line offset.

Another setting on the Chenille Cut Offset dialog allows you to set number of times the outline is repeated; subsequent cut outlines will be offset by once again as much distance as the first outline. For example, if the first is placed 3 mm away from the Chenille segment, the second will be at 6 mm, and so on.

The artwork segment generated with the Chenille Cut can then be converted to any type of segment (such as a Laser Cut, or a run stitch) that the operator can use to cut the chenille felt.

**To create a Chenille Cut Outline:**

- 1 Select the chenille with the Select tool.
- 2 Right-click to bring up the options menu; select Shape–Chenille Cut Outline,  
*You see the following dialog:*



- 3 To specify the distance from the Chenille segment to the cut outline, choose one of the following options:

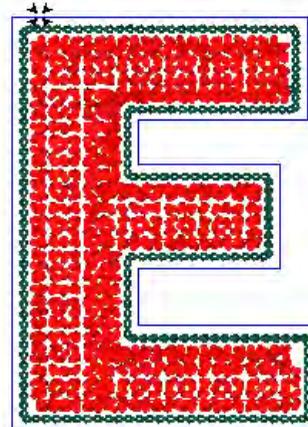
- ◆ Set the offset by checking the Specify distance box, and then typing the distance into the field.
- ◆ Click OK the dialog to close it, and then click in the workspace at the point where the cut outline is required



Hold down the mouse button and drag it to make fine-scale adjustments to the placement of the cut line.

- 4 If required, enter a number of repeats in the repeats field of the dialog (defaults to 1).
- 5 Click OK

*The cut outline (or outlines) appears in your design.*



*In this sample chenille letter, the chenille cut outline appears as the slightly-offset blue line.*

## Working with SEIT Laser Machines

Tajima DG16 by Pulse now allows you to work with SEIT laser machines. You can use this laser design option in Tajima DG16 by Pulse to create unique embroidery designs that incorporate laser cut, laser fill and laser bitmap segments.

## Connecting the SEIT Laser Machine

Tajima DG16 by Pulse can connect to a SEIT laser machine and one or more embroidery machines. For more information on how to connect SEIT laser machines, see your SEIT laser machine's documentation.



A Bridge Laser (SEIT Laser 4) machine connected with a Tajima multi head embroidery machine.

## Laser Machine Tools

Tool	What it does
	<b>Laser Cut:</b> Creates laser cuts in embroidery and laser designs using a laser bridge or plotter.
	<b>Laser Select:</b> Selects laser segments to be cut within a single cut field box (Do Not Split feature).

Tool	What it does
	<b>Laser Fill:</b> Creates laser engravings and cuts in embroidery and laser designs using a SEIT laser bridge or plotter.
	<b>Laser Bitmap:</b> Imports bitmaps and other image files for engraving using a SEIT laser bridge or plotter.
	<b>Export Laser Cut:</b> Opens the Exports Laser Cut segments and
	<b>Convert to Laser Cut:</b> Converts selected segments to Laser Cut segments.
	<b>Laser Appliqué:</b> Create a laser cut segment based on a selected Appliqué; offset and laser cut information is added automatically.
	<b>Export Laser Cut DST:</b> Exports laser cut files as a DST (stitch) file.
	<b>Show Laser Boxes</b> (appears on the ribbon when laser tools are enabled): Shows/hides the borders of the laser exception boxes, for the purposes of grouping laser segments.

## Performing a Laser Cut

Normally, you will use Tajima DG16 by Pulse to create designs that contain both laser and embroidery elements. A design's laser element information (laser data) is saved as a SEIT Laser File (\*.PXS) and is transferred directly to a specified SEIT driver.



When performing a laser cut in designs, you can change how machine formats are mapped to SEIT drivers and machines. For more information, see "Mapping Machine Formats to SEIT machines".

A design's embroidery element information is saved as a stitch file. The stitch file contains the sequence of jump and stop commands for the embroidery machine. These commands instruct the machine to move its frame in the laser space area and stop. Both the laser file and the stitch file are created in the Perform

Laser Cut operation. While the Laser file is transferred directly to the laser bridge driver, the stitch file must be loaded onto the embroidery machine.

Machine commands present in stitch files must be correctly mapped to needle changes or stops. This mapping to needle operation is specific to the embroidery machine type and/or model. For more information about this procedure, see your embroidery machine manual.

You must define the correct sequence of needles and stops in order for the embroidery and laser operations to work properly. To identify the requested sequence, you should always follow the information specified for thread sequences in Print Preview.

### To perform a laser cut:

- 1 Create, or open, a design with laser segments.
- 2 Do one of the following:
  - ♦ Select the Laser Export  button.
  - ♦ From the file menu, choose File—Export—Perform Laser Cut.  
*You see the Output to Laser Bridge dialog box.*
- 3 Click the Browse button to determine the location you want to export the laser file to.  
*A “Browse for folder” dialog will open.*
- 4 Select the directory for exporting the Laser file to, and click OK.
- 5 Select one or more of the following options:
  - ♦ **Autopath.** If this box is checked, the \*.PXS file associated with the design will automatically be sent to a network folder that is monitored by the laser machine. The file will then be

automatically retrieved from this folder when the cut is performed.

- ♦ **Autoload.** When this box is checked, the name of the laser file will be specially “tagged” so that it will be automatically assigned to a given embroidery machine.
- ♦ In the file name field, change the name of the file to be output, if desired.
- ♦ **Include machine information in filenames.** When this box is checked, the filename will have information added that identifies the laser machine and laser bridge that you are connected to. The filename will have the following form: <basename>\_<bridge>\_<machine>.PSF. (“Baseline” here refers to the name of the original file.)



The bridge and laser machine can be selected in the Machines window of the Output to Laser Bridge dialog.

To configure laser bridges and machines, return to the main window and select Tools—Configuration—Laser Bridges.

- ♦ **Filter overlapping points.** Selecting this option will filter out and remove points of the Laser cut path in any place where the it will draw over itself, i.e. cut more than once. This situation may occur when the laser cut was based on artwork drawing in which the line was drawn such that it crossed over itself.
  - ♦ **Process acute corners.** Creates a pause in the laser cut at acute corners, just long enough to ensure that the laser does not cut twice in sections of the design which have very small angle (i.e. areas with a very narrow “V” shape).
- 6 In the Machines window, click the “radio button” next to the laser machine you want to send the design to for cutting.

## 7 Click OK.

*The design will be sent to the machine.*

## Creating Laser Cut Segments

Tajima DG16 by Pulse allows you to create laser cuts in embroidery and laser designs.

The Laser Cut  tool creates segments that will be cut out using a SEIT laser bridge or plotter.

The laser cut segment settings offered in the software influence the performance and quality of the laser cut operation. Power and velocity settings combined define how much energy gets transferred on the surface of the material.



The total length of the laser cut in a selected segment will be displayed on the Status bar. The total length for all laser cuts (regular laser cuts + fills) in the whole design will appear on the Statistics bar.

### To create laser cut segments:

#### 1 In the Punching toolbar, click the Laser Cut

 tool.

*The settings for laser cut segments appear on the ribbon.*

#### 2 Do one of the following to digitize the Laser Cut:

- ◆ To create an open segment, click the design workspace to place the anchor points in your design.
- ◆ To create a closed segment, click the design workspace to place the anchor points in your design, and press **O** to close the segment.

#### 3 In the Segment Settings properties panel, modify any of the following, if necessary:

- ◆ In the Power box, enter the percentage of the maximum laser power. This

percentage will be applied by the laser ray for this segment. You must choose a range between 0 and 100 percent.

- ◆ In the Place stop field, select Stop to place a stop command within the segment.
- ◆ In the Velocity box, enter a velocity value within the 1 to 400 mm/sec. range. This value is the laser ray's speed of movement during the cutting process.
- ◆ In the Repeat box, enter the number of times that the laser ray will cut the fabric. Only values equal to 1 or higher are allowed.
- ◆ In the Height box, enter the height of the fabric.
- ◆ From the Work Area list, select the work area setting you want applied to the current segment.

#### 4 Press **ENTER** on your keyboard to complete the segment.

## Creating Laser Fill Segments

You can now create laser engravings in embroidery designs. Laser engravings are burnt into the surface of fabric, allowing you to create segments with a 3D look.

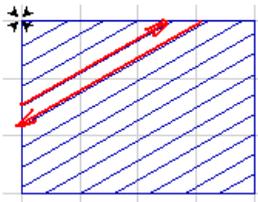
Use the Laser Fill  tool to draw shapes in your designs. The SEIT laser engraves and fills the inside of the shapes with unidirectional (only right to left) or bi-directional (left to right and right to left) movements. These engravings (fills) are accomplished using raster lines, which go back and forth at a

specified angle. When the engravings are completed, you also have the option to outline the contour of the shape.

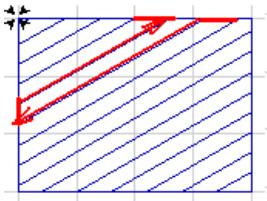


The total length of the laser cut in a selected laser fill segment will be displayed on the Status bar. The total length for all laser cuts (regular laser cuts + fills) in the whole design will appear on the Statistics bar.

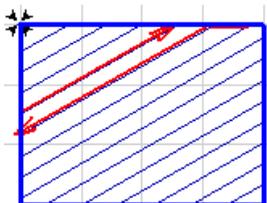
The following examples show how the bi-directional raster, raster connection and outline contour settings work:



a. Bi-directional raster,  
No Raster Connection



b. Bi-directional raster,  
Raster Connection



c. Bi-directional Raster  
Outline Contour

## To create laser fill segments:

- 1 In the Punching toolbar, click the Laser Fill  tool.

*You see the settings for laser fill segments appear on the ribbon.*

- 2 On the Properties, change any of the following settings if necessary:
  - ♦ In the Power box, enter the percentage of the maximum laser power. This percentage will be applied by the laser ray for this segment. You must choose a range between 0 and 100 percent.
  - ♦ In the Velocity box, enter a velocity value within the 1 to 400 mm/sec. range. This value is the laser ray's speed of movement during the cutting process.
  - ♦ In the Repeat box, enter the number of times that the laser ray will cut the fabric. Only values equal to 1 or higher are allowed.
  - ♦ In the Height box, enter the height of the fabric.
  - ♦ In the Raster Distance box, enter the distance (mm) between two adjacent Raster Lines. The minimum raster distance value is 0.3mm.
  - ♦ In the Raster Angle box, enter the angle (slope) of the Raster Line in the laser space (from 0 and 180 degrees).
  - ♦ Select Bi-directional Raster to have the laser ray fill the segment with movements in two directions (left to right and right to left). If unselected, the laser ray fills the segment with movements in one direction (right to left). The laser beam turns off at the end of each line and the operation continues with the next line going right to left again. For a visual display of a segment using the bi-directional setting, see images above.

- ♦ Select Raster Connection to have the laser ray fill the segment while keeping the laser beam turned on at the end of every two lines. If unselected, the laser beam will be turned off between every two lines. For a visual display of a segment using the raster connection setting, see images above.
  - ♦ Select Outline Contour to outline the contour of the shape once the segment is filled. This outline is cut around using the SEIT laser bridge or plotter. If unselected, the contour of the shape will not be outlined. For a visual display of a segment using the outline contour setting, see images above.
- 3 Do one of the following to punch a segment:
    - ♦ To create an open segment, click the design workspace to place the anchor points in your design.
    - ♦ To create a closed segment, click the design workspace to place the anchor point in your design and press **O** to close the segment.
  - 4 Press **ENTER** to complete the segment.

## Importing Laser Bitmaps

Use the Laser Bitmap tool  to convert a photograph into bitmap engravings. You scan the photograph and then import the image into Tajima DG16 by Pulse. When you scan photographs, the scanner's software generates bitmap images. The Laser Bitmap tool allows the user to import bitmap images as Laser Bitmap segments in the design.

Laser Bitmaps are created point by point. The laser ray stops for every point and applies the Power settings for a particular color or shade of gray.

### To import laser bitmaps:

- 1 From the Artwork toolbar, click the Laser Bitmap  tool.  
*You see the Load Artwork dialog.*
- 2 In the Look in list, select the directory folder where your file is located.
- 3 Select the image file you want to import.
- 4 Click Open.
- 5 Left-click to place the image on the design workspace. Each time you click, you place another copy of the image.
- 6 Press **ENTER** to stop importing the image.

## Converting Artwork or Stitches to Laser Cut

Use the Convert to Laser Cut tool  to convert all artwork segments, or stitch segments, instantly to a Laser cut segment.

**Important:** This tool will not work on outline segments, such as those created with the Run tool or the Manual tool; it will only work with Artwork or stitch segments. However, if you have an outline segment that you want to convert to laser, you can select it, right-click, and choose Process—Outline to Stitch Segments; it will now be convertible.



### To convert to Laser Cut:

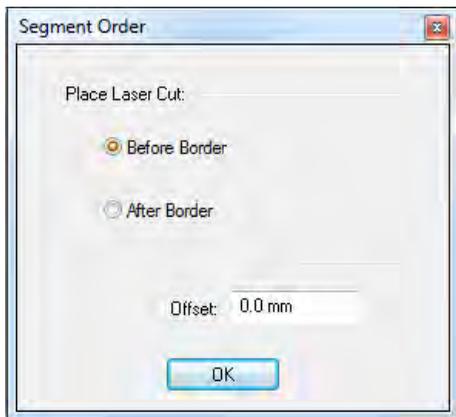
- 1 Open the file containing the artwork or stitch segments, and select one or more segments.
- 2 From the Laser toolbar, select the Convert to Laser Cut  tool.  
*The selected segment or segments will be converted to Laser cut segments.*
- 3 Adjust settings, as needed, in the Properties—Selection Settings panel. For more information, see “Changing Laser Cut Settings.”

## Adding a Laser Cut to an Appliqué Segment

If you have a laser bridge machine and the Appliqué option, you can use the Auto Laser Appliqué feature. The Auto Laser Appliqué tool takes an existing appliqué segment and adds a laser cut segment around the outside of the segment, effectively cutting the appliqué material for you.

### To add a laser cut to an appliqué:

- 1 Open a design with an existing appliqué, or create a new design with appliqué.
- 2 Select the segment.
- 3 Do one of the following:
  - ♦ On the Laser toolbar, select the Laser Appliqué  button.
  - ♦ Right-click, and from the context menu, select Process—Auto Laser Appliqué. *You see the Segment order dialog.*



- 4 In the Place laser cut area, choose the order for the placement of the Laser cut relative to the Steil: Before Border, or After Border.
- 5 Enter an Offset distance. This determines the distance the Laser cut will be displaced

from the outside edge of the steil border stitches of the appliqué.

- 6 Click Ok  
*The Laser cut will be added to the design, with the specified offset.*



In the Sequence View panel (Shift + T), the Appliqué segment's components (e.g. tack-down Run stitches, frame-out stitches, and steil border) will all appear as separate items - along with the Laser cut segment. You will now be able to select these segments individually to change their properties (e.g. thread color), if needed.

## Laser Cut Design Properties

Tajima DG16 by Pulse allows you to change the design properties settings for laser cuts.



By adjusting cut field and optimization settings, you can greatly improve the quality of your embroidery and laser designs.

### To change laser cut design properties:

- 1 Choose File—Design Properties. *You see the Design Properties dialog box.*
- 2 Click the Laser Cut property page.
- 3 In the Cut Field area, complete any of the following:
  - ♦ In the Width box, enter the maximum horizontal laser range for the specified work area. This setting determines the horizontal distance the laser ray will cut without moving its machine head.
  - ♦ In the Height box, enter the maximum vertical laser range for the specified work area. This setting determines the vertical distance the laser ray will cut without moving its machine head.



If the size of the design is bigger than the maximum range, the design will automatically be tiled and information will be sent one tile at a time.

- 4 In the Work Area, do the following:
  - ◆ The Work Area displays the list of work areas available in the current design. Each work area shown is set to its maximum cut field width and height value; however, you can customize these values accordingly.
  - ◆ Select **Set as Default** to make the selected work area the default. All new or opened designs will open using this default work area setting.
  - ◆ To restore the original SEIT laser bridge settings and use the work area settings from the current computer, click Reload. For example, if you were working on a SEIT Laser Bridge SL5 using a design that originally had SEIT Laser Bridge SL3 settings saved, clicking Reload would have the design use the current SEIT Laser Bridge SL5 work area settings instead.
- 5 In the Optimization Settings area, select Enable Optimization to adjust optimization settings. For designs that do not fit into a single work area, you will be able to adjust distribution and overlapping aspects of boxes (tiles). If selected, you can choose one of the following optimization settings:



We strongly recommend that you use the Enable Optimization option. Only in particular cases should you use automatic and manual optimization settings.

- ◆ **Automatic.** Tajima DG16 by Pulse adjusts distribution and overlapping aspects of boxes automatically.
- ◆ **Manual.** Allows you to manually define the number of laser cut boxes used for designs that do not fit in a single box. Enter the number of horizontal and vertical boxes you want in the boxes provided. By increasing the number of boxes and having more overlaps

between them, these settings allow you to improve the quality of your designs.

- ◆ Select **Apply the minimum Frameout Movement possible** when a portion of your design is smaller on the y-axis (height) than the overall work area (laser cut area). This setting allows the work area to be positioned in a way that enables the edge of the work area to be flush with the edge of the design or its y-axis. The frame (embroidery machine) will travel less distance, which compensates for the embroidery machine's limited frame out travel range and reduces the amount of time required to complete the design.

Depending on the operations performed by embroidery machines and laser bridges, the time required to sew a design will vary. You will need to make a trade-off between quality versus time.



If the laser must travel from within the center of the work area, the design will take the least amount of time to sew. If it must travel along the x-axis, the design will take more time to sew. If the embroidery machine must travel along the y-axis, the design will take the longest amount of time to sew.

- 6 Select **Always Center Laser Cut—Cut Field** in order for laser cut boxes (work areas) to be placed in the center of laser islands. Laser islands are the sequence of laser cuts that occur between embroidery.
- 7 Click OK.

## Changing Laser Cut Settings

The laser cut segment settings offered in the software influence the performance and quality of the laser cut operation. Power and velocity settings combined define how much energy gets transferred on the surface of the material.

**To change Laser Cut settings:**

- 1 Select the Laser Cut segment.
- 2 Press Ctrl+E on your keyboard and select Properties from the menu.  
*You see the Edit Stitch Types dialog.*
- 3 Click Properties.  
*You see the Segment Settings dialog.*
- 4 Make changes to any of the following settings, if necessary:
  - ♦ In the Power box, enter the percentage of the maximum laser power. This percentage will be applied by the laser ray for this segment. You must choose a range between 0 and 100 percent.
  - ♦ In the Velocity box, enter a velocity value within the 1 to 400 mm/sec. range. This value is the laser ray's speed of movement during the cutting process.
  - ♦ In the Repeat box, enter the number of times that the laser will cut the fabric. Only values equal to 1 or higher are allowed.
  - ♦ In the Height box, enter the height of the fabric.
  - ♦ From the Work Area list, select the work area setting you want applied to the segment.
- 5 Click OK.

## Laser Fill Settings

### Adjusting the Raster Distance

You can change the spacing between adjacent raster lines in SEIT Laser Design Fusion.

**To adjust the raster distance:**

- 1 Select the Laser Fill segment.

- 2 Press Ctrl+E and select Properties from the menu.  
*You see the Edit Stitch Types dialog.*
- 3 Click Properties.  
*You see the Segment Settings dialog.*
- 4 Click the Raster properties page.
- 5 In the Raster Distance box, enter the distance (mm) between two adjacent Raster Lines. The minimum raster distance value is 0.3mm.
- 6 Click OK.

### Adjusting the Raster Angle

You can easily adjust the angle (slope) of the raster line for Laser Fill segments.

**To adjust the raster angle:**

- 1 Select the Laser Fill segment.
- 2 Press Ctrl+E on your keyboard and select Properties from the menu.  
*You see the Edit Stitch Types dialog.*
- 3 Click Properties.  
*You see the Segment Settings dialog.*
- 4 Click the Raster properties page.
- 5 In the Raster Angle box, enter the angle (slope) of the Raster Line in the laser space. You must choose an angle between 0 and 180 degrees.
- 6 Click OK.

## Combining Laser Segments

You can combine two or more segments created by the Laser Cut, Laser Fill or Artwork tools to form a single segment. In other words, the simple paths are merged into a new segment. Only one of the segments can be created using the Punching tools; the other segment or segments must be artwork segments.

### To combine path segments:

- 1 From the Edit toolbar, click the Select  tool.
- 2 Select the path segments you want to combine.
- 3 Press Ctrl+E and choose Combine from the shortcut menu.  
*The combined segments are merged into a new segment.*

## Grouping and Ungrouping laser segments for output

You can group and ungroup laser segments when performing laser cuts. Use the Group/

Split Laser Segment  tool to select one or more laser segments that you want grouped together within the set work area's cut field.

As a general rule, the selected laser segment(s) must:

- Fit 100% within its own work area's cut field.
- Fit between two embroidery segments.
- Not have a particular sewing sequence.
- Use the same work area as all other selected segments.
- Not have embroidery sequenced between the segments.
- Be a laser cut, laser fill or laser bitmap segment.



To highlight the location of specified work area boxes within the design window, click

Show Laser boxes  from the ribbon.

### To group laser segments for output:

- 1 In the Edit toolbar, click the Group/Split Laser Segment  tool.

- 2 To select one laser segment, do one of the following:
  - ♦ Click the segment you want to select.
  - ♦ Click and drag to select the segment you want.

*The active segment is enclosed in a selection box with handles.*

- 3 To select multiple segments, do one of the following:
  - ♦ Click and drag across all the segments you want to select.
  - ♦ Click a segment at the start of your selection. Press Shift on your keyboard while you click the segment at the end of your selection. To extend the range of selected segments, press Shift again or Shift+CTRL while you click any segment outside the range of segments already selected.
  - ♦ Click a segment. Press CTRL on your keyboard while you click each segment not already selected.

*The active segments are enclosed in a selection box with handles.*

- 4 Right-click and select Do Not Split from the menu.



If the group of laser segments selected does not fit within the specified work area, you will see a warning dialog appear after you select Do Not Split from the menu.

### To ungroup laser segments for output:

- 1 In the Edit toolbar, click the Laser Group/Split Laser Segment  tool.
- 2 Select a grouped laser segment.  
*The active segment is enclosed in a selection box with handles.*
- 3 Right-click and select Allow Split from the menu.

*The enclosed laser segments will no longer be grouped together.*

## Changing Laser Bitmap Settings

In Tajima DG16 by Pulse you can use the properties panel to modify Laser Bitmap segment settings.

### To change laser bitmap settings:

- 1 Select the laser bitmap segment.
- 2 In the Properties panel, change any of the following:
  - ♦ In the Power Black box, enter the maximum laser power that will be applied by the laser ray (beam) for the black color. You must choose a percentage value.
  - ♦ In the Power White box, enter the maximum laser power that will be applied by the laser ray (beam) for the white color. You must choose a percentage value.
  - ♦ In the Velocity box, enter a velocity value within the 1 to 400 mm/sec. range. This value is the laser ray's speed of movement during the cutting process.
  - ♦ In the Repeat box, enter the number of times that the laser ray will cut the fabric. Only values equal to 1 or higher are allowed.
  - ♦ In the Height box, enter the height of the fabric.
  - ♦ From the Work Area list, select the work area setting you want applied to the current design.
- 3 Press **ENTER** on your keyboard.

## Exporting a Laser Cut file as a .DST

The Laser Cut DST tool applies exclusively to designs that are going to be sent to the GMI laser machine.

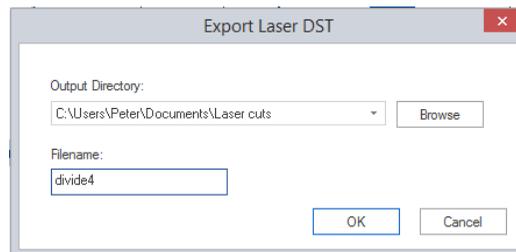
This tool exports laser cuts and fills to a running stitch segments; any other segments in the design are left as they were. The tool also inserts a “three stop” command at the beginning of each group of laser segment to signal the laser to turn on, and another “three stop” command at the end of the laser segment, to turn the laser off

When you export a file with this command, you will be prompted to select the directory for the files to be saved in.

To export laser files as DST:

- 1 Open a design with laser segments, or digitize a laser segment in an existing design.
- 2 Do one of the following:
  - ♦ Select the Export Laser Cut DST  tool.
  - ♦ From the file menu, choose File—Export—Perform DST Laser Cut.

*You see the “Export Laser DST” dialog.*



- 3 Click Browse to select the directory you want to export the DST file to.



Once you select a directory in this dialog, that folder will be set as the default directory each time the Export Laser Cut DST tool is used.

- 4 (Optional) Enter a name for the DST file; the original file name will be chosen by default, but can be changed in the dialog.

## 5 Press Ok.

*The file will be saved as a DST in the selected directory.*

# Auto Boring

Boring is a method of creating interesting lacy textures on fabric. There are three optional Auto Boring tools that simplify the process of adding boring to designs. You can automatically create boring segments based on triangular, elliptical, or rectangular outlines, by selecting the appropriate tool from the Auto Boring toolbar.

The boring process works by sewing a run stitch segment that outlines the position of the bore. Then, a special knife attached to the embroidery machine cuts a series of slits in a radial pattern to create a bore. A series of stitches are sewn through the hole and out to the periphery of the bore, which roll back the flaps of material made by the cuts; these are called “Rollups”. Finally, the Boring segment is completed by sewing a set of border (Steil) stitches that go through the bore hole and out past the original run stitch on the outside.

Auto Boring tools simplify this process by generating all these stitches for you; strictly speaking, all you have to do is choose an Auto Boring tool and draw the initial outline shape. The software does everything else, employing a set of default segment settings. These defaults can, however, be modified in the Auto Boring segment settings.

See “Modifying Auto Boring Properties” for details on this procedure.

## To create a bore using Auto Boring tools:

- 1 From the Auto Boring toolbar, select one of the boring tools.

*The mouse pointer changes to a cross.*

- 2 Click in the workspace, and drag to determine the size and shape of the Auto Boring segment.

*You see the outline of your segment in the workspace, as either an ellipse, triangle, or rectangle, depending on the tool you have chosen.*

*This outline corresponds to the initial Run Stitch that will be punched by the Auto Borer, given an offset of zero; however, see “Run Offset” in the segment settings.*

- 3 When the segment is the size and shape you want, release the mouse button.

*The Auto Boring segment appears in your workspace.*



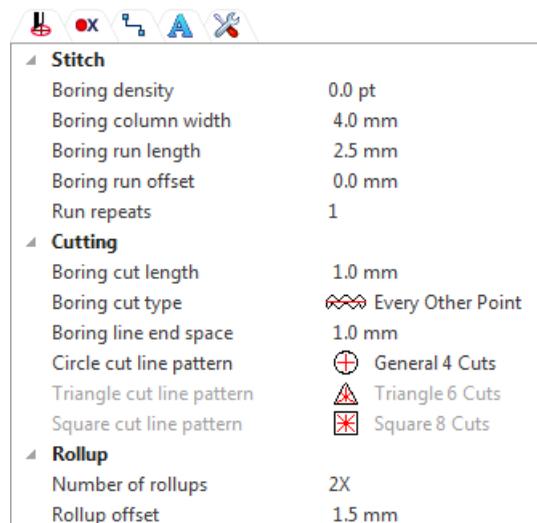
*Auto Boring segments as they appear in the workspace; as sewn out, of course, the column width is much narrower, since the fabric will be “rolled up” from the center.*

When you have created an Auto Boring segment, it will display in the workspace with a “topknot” of stitches above it – these will not actually sew out! They represent the motions made by the pantograph while the knife cuts are being made. (Because this cutting device has to be offset slightly from the needle it is taking the place of, these “virtual” stitches show up a corresponding distance off-center.)



## Modifying Auto Boring Properties

Each of the three Auto Boring tools will create the boring segment based on a set of default properties. You can view and modify these in the Tool settings or Selection settings panel.



### Stitch Settings:

- ◆ **Column width:** Overall width of column surrounding the center of the cut.
- ◆ **Run length:** Length of the run stitches that go around the bore.
- ◆ **Run repeats:** If desired, the run portion of the segment can be reinforced by being sewn more than once.
- ◆ **Density:** Density setting for the stitches in the Steil column around the bore.
- ◆ **Run offset:** The distance between the outline drawn using the Auto Boring tool and the position of the Run stitches; measured inward from the outline you drew with the Boring tool.

### Cut Settings:

- ◆ **Cut length:** The length of the knife penetrations.

- ◆ **Cut type:** This controls the knife penetrations; you may choose between penetrating at every other point or at every point.



- ◆ When Every Other Point is selected, the cutting needle penetrates at the stitch interval going out along each leg of the cut, and then is offset by half the interval on the way back, so that the second set of penetrations falls in between the first.
- ◆ When Every Point is selected, the cutting needle penetrates at the same points on the way out along the cut length as it does on the way back; effectively, cuts twice at each point.
- ◆ **Cut line pattern:** Choose the number of cuts to be made, in any of the circular, triangular or square shapes:
  - ◆ Circle: 2, 4 or 8 cuts.
  - ◆ Triangle: 3, 6, or 12 cuts.
  - ◆ Square: 4, 8, or 10 cuts.
- ◆ **Line end space:** The distance between the end of each cutting line and inner edge of the column stitches.

### Rollups:

- ◆ **Number of Rollups:** The Rollup stitches serve to pull back and tighten up the fabric "wedges" after they have been cut by the knife. Choose a number of Rollups from 4, 6, 8, 12, 16, 20, or 24.



The rollup numbers 6 and 12 are only used for Triangular Auto bore segments.

**Rollup offset:** The distance from Run stitch outline of the bore for Rollup stitches. The offset is always greater than zero, i.e. the offset must be a positive number.

## Cloud Storage

Tajima DG16 by Pulse offers the ability to save designs to cloud storage directly from within the software. You can send to and retrieve files from either your own Dropbox account or PulseCloud from the File menu.

PulseCloud has many other features, such as design tagging, sending designs, and the ability to view the design queue remotely.

## Using PulseCloud

The PulseCloud service enables you to manage your designs and machines remotely, through either a computer or mobile device. This web-based service allows easy storage and sharing of designs that are created on your Tajima DG16 computer, and downloading of shared designs onto your computer.

Registration is required to use PulseCloud. Note that for the purposes of registration, you will need to input an Authorization code - this is your DG16 device number.



As part of the registration process, you will create your own user ID and password, which you will subsequently use to sign in when sharing or downloading design files.

### To upload designs to PulseCloud:

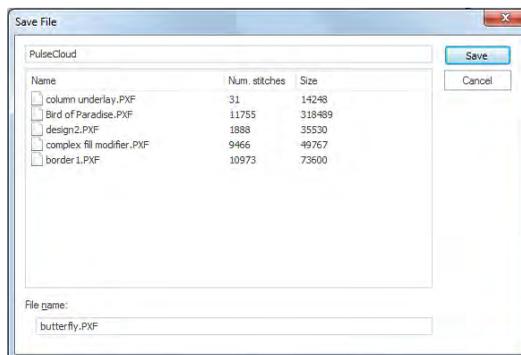
- 1 Open a design.

- 2 From the File menu, select Share with—PulseCloud.

If you are not yet logged into your PulseCloud account at this point you will see a log-in screen; use the username and password you created when registering. By checking the “Remember me” box, you can opt to remain signed in for subsequent writing to and reading from PulseCloud.



- 3 The first time, you will be prompted by a dialog for permission to write to the PulseCloud disk - click "Allow." *You see a Save as dialog, which will show the names, number of stitches, and file size of any files already in storage.*



- 4 If desired, rename the design by entering a new named into the File name field.
- 5 Click Save. *The new file will now be uploaded into PulseCloud storage.*

### Opening a file from PulseCloud:

- 1 From the file menu, select File—Open from PulseCloud. *You see an Open dialog.*

- 2 Click on the name of the design form this the list to select it.

*If show thumbnail is selected, a thumbnail preview of the image will appear in the dialog.*

- 3 Click Open.

*The design will appear in the workspace.*

Notice that in the tab (along the top of the workspace) the design's name has "PulseCloud" appended to it. This signifies that it is not a local copy, it is only saved on cloud storage; to create a local copy, use the "Save as" command to save it to a local directory.

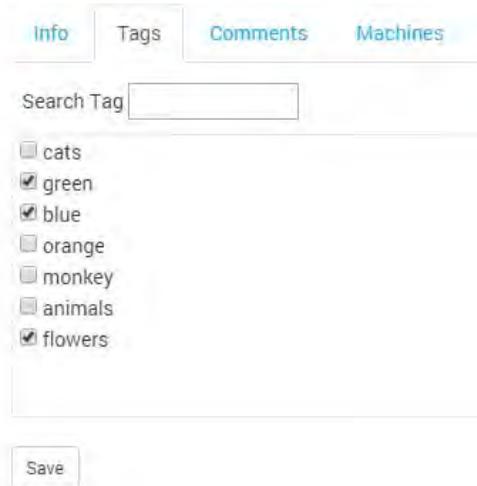


## Tagging Designs on the PulseCloud site

Tagging is another advantage to using PulseCloud for design storage. On the web site, designs can have tags assigned to them, allowing you to do filtered searches. When you click on the tag in the "Designs" page, only those designs tagged with that keyword will be displayed.

### To create and assign tags:

- 1 Go to <https://cloud.pulsemicro.com>, and sign into your account.
- 2 On the "Files" page, click on the Create New tag link, and input the tag text into the field.
- 3 Click on a design name in the list.  
*You see the information page for that individual design.*
- 4 Click the "Tags" tab.  
*This tab displays a search field, and a list of the available tags.*



- 5 Check the boxes of the tags you want to assign to the design.

*The new tag will be assigned to the design.*

## Editing Text in PulseCloud

You can modify to certain properties of text segments in PulseCloud. The Edit Text tool can be used to change the text's content, font, and/or thread color.

However, in order to permit this, you first have to save each text segment as an Element, so that it will be replaceable. This step must be done when the design is originally created. For more information on Elements, see "Design Editing in Outline Mode—Using Elements."

### To Edit Text in PulseCloud:

- 1 Sign in to your PulseCloud account.
- 2 Select the Files tab.  
*You see the list of uploaded files.*
- 3 In the list, select a design containing one or more replaceable Elements.
- 4 At the top of the Files page, click Edit text.  
*The design opens in a new dialog.*

*The modifiable elements will be listed to the right of the design preview panel.*

- 5 Click in the Text field to modify the content of the text segment.
- 6 To change the font, click in the font field and select a new font from the list.
- 7 To change the color of the text, do the following:
  - ♦ Click the down-arrow on the right of the color field.



For two-color fonts, there will be a separate field for each color.

*The Thread Colors dialog opens.*

- ♦ Click in the color palette field to select a new color palette.
- ♦ Click the desired thread color to apply it to the text.

*The Thread Colors dialog closes, and the selected text now has the new color.*

- 8 If required, repeat steps 5–7 for each modifiable Element in the design.
- 9 Click the “Save to Cloud” button.  
*You see an Upload dialog.*
- 10 Enter a name for design, and then click the “Upload” button to save the design.

## Sending Designs to the Machine from the Cloud

If you have a design spooler linked to your PulseCloud account, you will be able to send uploaded designs to the machines on the spooler from any device on the web.

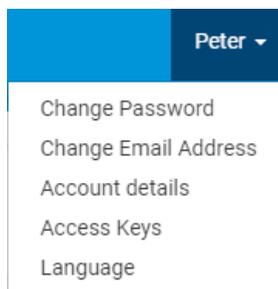
### Allowing the Spooler Connection

In order to be able to send designs directly from cloud storage to your design spooler, you must first allow this connection in the spooler settings (Tools—Configuration—Spooler Settings...).

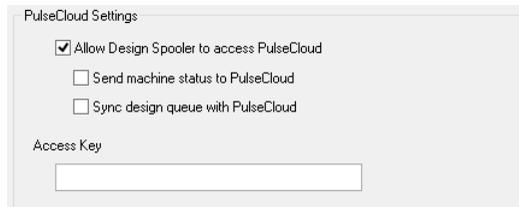
The link between your design spooler and PulseCloud depends on a unique access key. This key will be available on the PulseCloud website, once you have registered. You must enter this access key in the appropriate field on Spooler settings dialog in order to send designs saved to the Cloud to the spooler.

### To enable PulseCloud to link to the Design Spooler:

- 1 Go to <https://cloud.pulsemicro.com>, and sign into your account.
- 2 Click on your user name (top-right of page).  
*You see an option menu.*



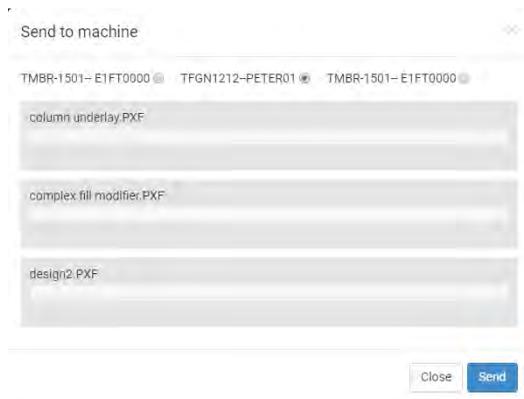
- 3 From the menu, select Access keys.  
*You see the Access Keys page.*
- 4 Select and copy one of the access keys.
- 5 In Tajima DG16 by Pulse, Select Tools—Configuration—Spooler settings...  
*You see the Spooler Settings page.*



- 6 Under PulseCloud settings, check “Allow Design Spooler to access to PulseCloud.”  
*The PulseCloud settings become active.*
- 7 Enter the key number from the Cloud into the Access Key field.
- 8 Check “Send Machine Status to PulseCloud” to see the current machine status in your PulseCloud account.
- 9 (Optional) Check “Sync Design Queue with Pulsecloud” to synchronize the Design Queue on PulseCloud.

**To send designs to the Machine:**

- 1 Sign into your PulseCloud account.
- 2 On your PulseCloud page, select Files.
- 3 Select the design you want to send; to send multiple designs, check the small boxes to the left of each row.
- 4 Select Actions—Send to Machine.  
*The Send to Machine dialog opens, listing the design (or designs) that have been sent; a list of available machines is shown along the top of the dialog.*



- 5 If multiple machines are listed, select the radio button of the machine you want to send to.

- 6 Click Send.  
*The Send to Machine dialog will indicate “success” for each design successfully sent.*



- 7 Click Close, or click Go to queue to view the design queue.  
*The design or designs sent will appear in the machine queue.*

**Other PulseCloud Functions**

**Design statistics:** On PulseCloud, information about the design is readily viewable from your device - the number of stitches, overall dimensions, file size, and creation date.

**Machine status:** On your PulseCloud account, if it is configured it so that your design spoolers are synchronized with it, you can see machine status live on line - for example, see what is currently sewing, what designs are in the queue, and track machine events, such as thread breaks.

**Comments:** You can add instructions or other comments to a design in PulseCloud. These comments will be sent to the machine along with the design.

To add comments, select a design in the files list; this will open design information dialog. In this dialog, select the Comments tab. Type the comments into the box at the bottom of the tab.

## Using Dropbox for Design Storage and Sharing

If you have an account on Dropbox, Tajima DG16 by Pulse allows you to open from it, or save files to it.

### To save designs to Dropbox:

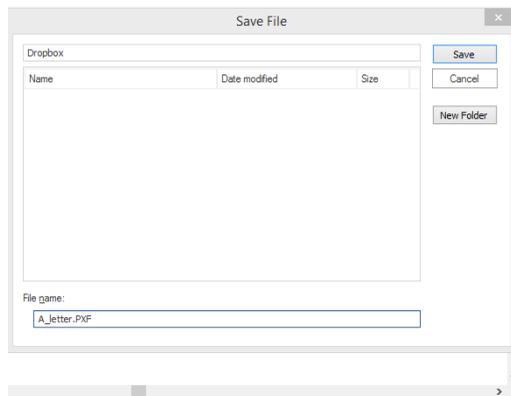
- 1 From the menu bar, select File—Share—Dropbox.
- 2 The Dropbox sign-in dialog will open. Sign in to your account.

In a given session, you will only have to sign in the first time you share a file; subsequently, this dialog will not appear, and you will see the Save File dialog immediately.

However, if you close DG16 by Pulse and re-open it, you will have to sign in to Dropbox again.



*You see the Save File dialog.*



- 3 (Optional) To create a new folder to place the shared design into, do the following:
  - ◆ Click the New Folder button.  
*You see the New Folder dialog.*
  - ◆ Enter a name into the New Folder field and click OK.  
*The new folder will be created within your existing Dropbox folder.*
- 4 In the Save as dialog select a folder (if applicable) and click Save.  
*You see the File uploaded successfully dialog.*
- 5 Click OK to dismiss the dialog.

### To open designs from Dropbox:

- 1 From the menu bar, select File—Open From—Dropbox.
- 2 The Dropbox sign-in dialog will open.

In a given DG16 by Pulse session, you will only have to sign in the first time you download a file; subsequently, this dialog will not appear, and you will see the Open file dialog immediately.

However, if you close DG16 by Pulse and re-open it, you will have to sign in to Dropbox again.



- 3 Sign in to your account.  
*You see the Dropbox Open file dialog.*
- 4 Select a file, and click Open.  
*The file will open in a new tab in the Tajima DG16 by Pulse workspace.*

Notice that in the name tab (along the top of the workspace) the design's name has "Dropbox" appended to it. This signifies that it is not a local copy; to create a local copy, use the "Save as" command to save it to a local directory.



# Head Grouping

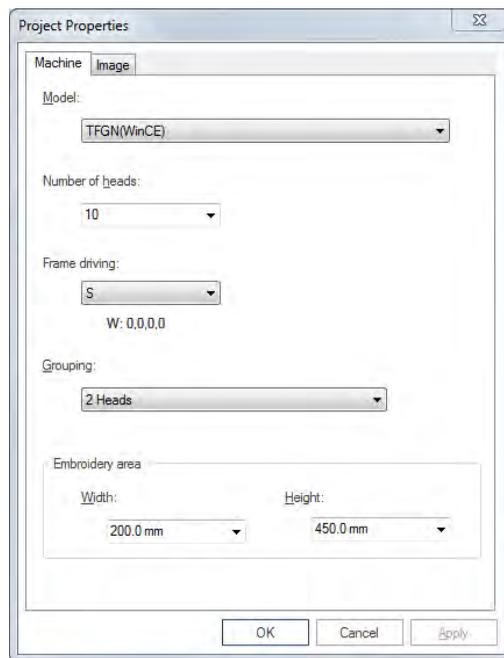
Head Grouping is a new way of sewing very large designs on certain Tajima machines. With Head Grouping, a set of 'heads on the machine can be organized into groups. Each of the individual heads in the group is given a different part of the design to sew, allowing you to produce a much wider design than would otherwise be possible; effectively, the design is 'split' between 2, 3, or 4 heads.



For some machines, there is an "Individual" option available on the Head Grouping Properties page. If this is selected, it is possible to assign a different design to each head, potentially allowing the designer to have as many groups as there are heads on the machine.

The grouping of the heads on your machine, and the assignment of the parts of the design to each group, is done via the "Head Group Manager", a separate program within Tajima DG16 by Pulse. A Head Grouping project is created by way of the New Document dialog; to initiate one, open a new file by selecting File—New or type Ctrl+N on the keyboard. On the New Document dialog, click the Head Group Manager  icon.

When create a new Head Grouping project, the Project Properties dialog will open first.



In this dialog, you enter overall properties of the project, such as the machine model, the number of heads on the machine, and the number of heads to be used for each group.

You put the designs together in the Head Group Manager workspace. This interface displays all the components of your grouped design, and a preview of the overall project.



At the top of this workspace, there is the "Global View" window, and below it, a window for each cycle in the project. The Global View shows all the cycles in the Head Grouping project integrated together, and the windows below show the layout of each cycle.

Designs are loaded using the L ("Load") button of the cycle window; an Open dialog will then open on your computer.

Once loaded, you can edit the design by pressing the button marked E ("Edit"), which opens it in Tajima DG16 by Pulse. You can also realign the design within the head frame by selecting the M ("Move") button.



To remove a cycle from the project completely, click on the X button at the top-left of that cycle.

When the project is ready to be sewn, it must be exported from the Head Group Project manager. Do this by selecting Edit—Output to File. This will open a Save As dialog, from which you can select directory to save it in, a name for that particular file, and a file type to output it as (either \*.PXf or \*.TBF).

## Quick Name Express

### About Quick Name Express

Quick Name Express is an application that allows you to quickly create a number of similar embroidery designs all at the same time, using a template. Note that this option is its own separate application, which runs outside of the Tajima DG16 by Pulse workspace. To open Quick Name Express, select All Programs—Tajima—DG16 by Pulse—Quick Name Express.

This template is an embroidery design which includes at least one segment of text (as a placeholder) plus whatever additional designs and/or text that is required.



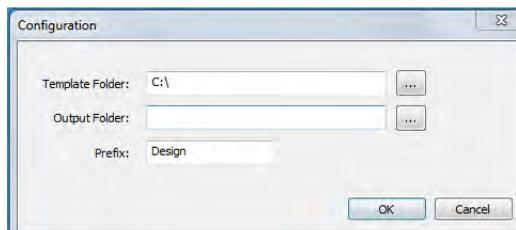
**Important:** The application will only substitute for a single text string; if there are two or text segments in the template, it will change the first one, but not any of the subsequent ones. Therefore, in the template, the text segment that you want to change must be set up so that it is first in the sewing order.

Using the Quick Name Express application window, you can input a list of text strings (for example, names) into a table. These will then be substituted in for the placeholder text in the original template; the program then outputs a separate file for each name, and then saves these files in a separate folder.

As well as changing the name for each design that is output, you can also customize the color of the lettering for each design, by changing the needle number.

## Quick Name Express - Configuration

The first time you open Quick Name Express, you will first see the Configuration Dialog.



In this dialog, you can set the following:

- **Template Folder:** This determines the locations that Quick Name Express will look in to find the template files. Click the

button  next to the Template Folder field to browse to the desired location.

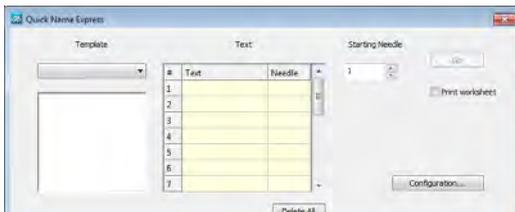
- **Output folder:** Click the button to the right of the Output folder field and the location of the output folders. Click the button  next to the Output folder field to browse to the desired location.
- **Prefix:** In this field for the files as they are generated; following this prefix, numbers will be added onto the end in sequence.

## Using the Quick Name Express Application

Once the application is configured, you can use it to begin adding names to design.

### To make a series of designs from a template:

- 1 Open Quick Name Express.
- 2 You see the Quick Name Express dialog.

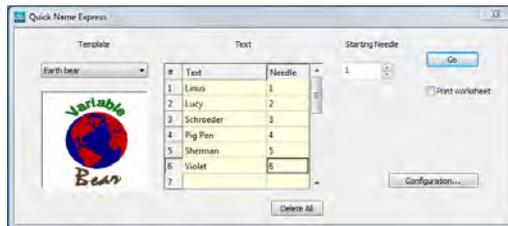


- 3 Click the down-arrow next to the template field, and select the file that is to be used as the template from the list that appears.



The Template folder can be changed at any time clicking the Configuration button.

- 4 In the text field, do the following:
  - In the text column, enter the names you wish to substitute for the placeholder text in the template.



- (Optional) Choose the needle number for each design; the color of the needle will be assigned when the design is sewn-out.

- 5 (Optional) Check the Print worksheet box.

Worksheets create a printed list of the files that have been output. This file contains the name of the template file, followed by a list of each file's substitute text, the sequential file name, and a bar code.



The bar code can be read by sewing machines with a bar code reader.

- 6 Click the Go button to generate the individual files.

*Files will be saved in sequence, each with its own file name. The file name will consist of the designated prefix and number.*





# APPENDIX C

## Getting Help

This section provides the information you need to help you with Tajima DG16 by Pulse.

*Topics covered in this appendix:*

- Becoming a registered user.
- Documentation available for Tajima DG16 by Pulse.
- How to contact Software Support.
- Troubleshooting any problems you may be having.

## Becoming a Registered User

Registered customers receive privileged access to the Pulse Microsystem's Customer web site. Some of the benefits include the ability to download the latest maintenance release of Tajima DG16 by Pulse and access the extensive Information Database.

### To become a registered user:

- 1 Start Tajima DG16 by Pulse.  
*You see the Start Page.*
- 2 Click the Register link in the top left corner of the page.
- 3 Enter the necessary information in the registration form.
- 4 Click Submit.  
*Pulse Microsystems will process your request.*
- 5 When you are registered, you will receive an email with your personal username and password.  
*Now, you can use the Support web link at your convenience.*

## Tajima DG16 by Pulse Documentation

The Tajima DG16 by Pulse documentation gives you a variety of ways to find answers to your questions.

### Online Help

The online Help provides a quick way to access conceptual information and step-by-step instructions.

### Font Help

The Font online Help contains general information about our embroidery fonts and lists the Standard and Optional fonts provided with our embroidery systems. A sample of each font is provided.

### Fill Help

The Fill online Help contains general information about Fill patterns, and it lists the Carved, Programmed, and Standard Fill patterns provided with Tajima DG16 by Pulse. A sample of each Fill pattern is provided with its appropriate settings.

## Pulse Microsystems' Knowledgebase

Registered users can access useful information in the Pulse Knowledge Database using the Pulse web site. You can troubleshoot common problems and get answers from the Frequently Asked Question list. The URL is <http://www.pulsesupport.com>.

### Quick Reference Card

The Quick Reference Card (QRC) describes all the tools and commands available with the software. Depending on the system level you have, you may not have some of the tools and commands listed.

## Online Help

The Tajima DG16 by Pulse online Help is a quick way to find answers to your questions and see step-by-step instructions. Because the online Help is updated for every major release, you will benefit from the most up-to-date information.

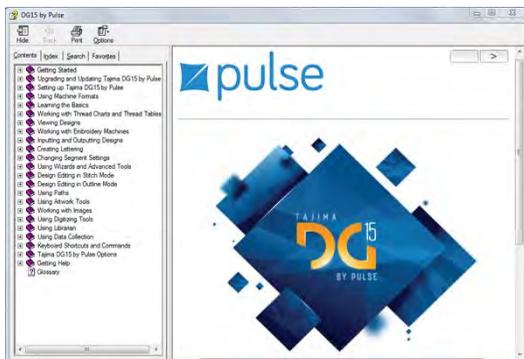
## Opening the Online Help

The online Help contains a wide variety of topics that contain helpful procedures, descriptions, and definitions.

### To open the online Help:

- Do one of the following:
  - ◆ Choose Help—Contents.
  - ◆ Press F1 on your keyboard.

*You see the Tajima DG16 by Pulse Online Help.*



## Using the Contents

The online help has a table of contents. Each book contains a series of related topics.

### To use the Contents:

- 1 Open the Online Help.  
*You see the Tajima DG16 by Pulse Online Help.*

- 2 Double-click the book you want to open.
- 3 Click the topic you want to see.  
*You see the topic in the right window pane.*

## Using the Index

The online Help index is similar to the index in a book.

### To use the Index:

- 1 Open the Online Help.  
*You see the Tajima DG16 by Pulse Online Help.*
- 2 Click the Index tab.
- 3 In the box, enter the word or words you want to search.  
*In the list, you see the topics that most closely match your query.*
- 4 Click the term you want to learn more about.  
*If there is more than one topic for the keyword, you see a menu.*
- 5 Click the topic you want to see.  
*You see the topic in the right window pane.*

## Using Search

The Search tab lets you search using keywords or phrases in a database of all the words found in the Tajima DG16 by Pulse online Help.

### To use Search:

- 1 Open the Online Help.  
*You see the Online Help.*
- 2 Click the Search tab.
- 3 In the text box, enter the keywords or phrases you want to find.
- 4 Click List Topics.  
*In the list, you see the topics that most closely match your search terms.*
- 5 Do one of the following:

- ◆ Click the topic you want to view and click Display.
- ◆ Double-click the topic you want to view.  
*You see the topic in the right window pane.*

## Using the Font Help

The Font online Help has information on the available embroidery fonts. It displays a sample of the font, available keystrokes, recommended heights, and special notes.



You may not have all these fonts installed on your computer. To purchase additional font packages, contact your distributor.

### To open:

- Choose Help—Fonts.  
*Once the Font Help is opened, it works the same way as all other Help files.*

## Using the Fill Help

The Fill online Help contains Fill samples, quality control recommendations, and additional information about altering the available Standard, Programmed, and Carved Fill patterns.

### To open:

- Choose Help—Fills.  
*Once the Fill Help is opened, it works the same way as all online Help files.*

## Saving Favorite Topics

The Favorites tab lets you save the topics that you visit most often and want to access quickly.

### To save your favorite topics:

- 1 Open the Online Help.
- 2 Double-click the book you want to open.

- 3 Click the topic you want to save as your favorite.  
*You see the topic in the right window pane.*
- 4 Click the Favorites tab.  
*You see the selected topic in the Current topic area.*
- 5 To add the selected topic to your favorites list, click Add.  
*You see the selected topic appear in the Topics area.*
- 6 To display your favorite topic, do one of the following:
  - ◆ In the Topics area, select the favorite topic you want to display and click Display.
  - ◆ In the Topics area, double-click the favorite topic you want to display.  
*You see the topic in the right window pane.*
- 7 To remove one of your favorite topics, select the favorite topic you want to remove and click Remove.

## Printing Help Topics

You can print any of the topics in the online Help.

### To print topics:

- 1 Choose Help—Contents.
- 2 Select the topic you want to print.  
*The topic will appear in the Help window.*
- 3 Click Print.  
*You see the Print Topics dialog box.*
- 4 Select one of the following print options:
  - ◆ Print the selected topic
  - ◆ Print the selected heading and all subtopics
- 5 Click OK.  
*You see the Print dialog box.*

- 6 Change any of the print settings, if necessary, and click OK.

*The topic is printed.*

## Software Support

Software support is available through the internet, email, and the telephone to help diagnose problems that you may not have been able to solve.

### Before you call software support

There are several steps you can take before calling Software Support for assistance. Performing these steps may solve many problems and eliminate the need for telephone assistance.

- **Restart your Computer.** Sometimes just restarting your computer may clear up any problems you are having.
- **Check for new software or setting conflicts.** Sometimes problems you are having with the system can be a result of a recent installation of new software or utilities that are running at the same time as Tajima DG16 by Pulse. If you have recently installed new software or changed other system configurations, for example your monitor setting, try restoring your original settings, or uninstalling the software. In some cases, if you uninstall software, you must also reinstall Tajima DG16 by Pulse. This ensures that any files that might have been damaged by your new software installation are restored. If the problem disappears, try reinstalling the problem

software, or contact the manufacturer for a newer version.

- **Check device connections.** Make sure that the devices and peripherals you are using are securely and fully connected to your computer and that cables or cords are not damaged. The cause of a problem could be a bad connection.
- **Check your hard drive.** Use a disk utility such as ScanDisk (a Windows® utility found in the Start menu in Programs—Accessories—System Tools) to check whether your hard drive contains bad sectors that may be causing the system to crash. If you find bad sectors, then you can use the Disk Defragmenter (also found in the Start menu in Programs—Accessories — System Tools) to optimize and defragment the hard drive. For more information, see your Windows documentation.

### To help software support diagnose your problem more easily, you can:

- 1 Generate a Diagnostics Report.
- 2 Send the information to your software support personnel via e-mail or the internet.
- 3 Use Microsoft Camcorder to tape and save screen captures of the steps leading to a problem.

# Troubleshooting

The Troubleshooting section contains common solutions to problems you may encounter when using Tajima DG16 by Pulse. See the Readme file installed with the program for last minute information not included in the Online Help. If the problem you are having is not related to Tajima DG16 by Pulse, such as a Windows O/S problem, or a problem with another application on your computer, please consult the product's documentation or Software Support.

## Error Messages

The following is a list of common error messages with an explanation of what they mean.

### Input Errors

Error	Explanation
Error opening input file (an unexpected disk error occurred).	The error message may appear in the Input dialog box when you click OK.  <ol style="list-style-type: none"> <li>1. When the error message appears, start the input file process again.</li> <li>2. If the error message reappears, contact your distributor.</li> </ol>
Error Reading Directory. Please verify the disk format.	Make sure the disk the hard drive is trying to read is in the correct format and try again.

Error	Explanation
File not found. Please check the drive and file name.	The error message may appear in the Input dialog box when you click OK.  Double-click the design instead of typing its name in the box.
Input failed due to internal error.	The error message may appear in the Input dialog box when you click OK.  <b>Note:</b> You cannot fix this problem. Please contact your distributor.

### Outputting Errors

Error	Explanation
Error deleting file, please check if the disk is write-protected.	Check if the disk is write-protected and try again.
Error reading directory.	Remove the disk and reinsert it into the drive. If this does not work, use a different disk and try again.
File already exists.	Change the name of the design and try again.
Output failed due to internal error.	<ol style="list-style-type: none"> <li>1. Verify that you have enough free hard disk space.</li> <li>2. Exit Tajima DG16 by Pulse. Restart Windows and try again.</li> </ol>
The currently selected disk is full. Insert another disk or click Cancel.	Delete files to free space on the disk or insert a blank formatted disk.
The directory of this disk is full. Insert another disk or click Cancel.	You have reached the maximum number of files allowed on a disk for this format.  Insert a new formatted disk and try again.

Error	Explanation
The file is too big for this type of disk. Please use another disk type.	Disk formats can only store a limited number of stitches. You are trying to put a design that is too large on the disk. Change the size of the design, or choose another disk format.
The files cannot be overwritten on this disk type.	Some disk formats do not let you overwrite files. Change the name of the file and try again.
Writing error. Please check to see if the disk is write-protected.	Remove the write-protection from the disk (the tab located at the upper left side of the disk) and try again.

## Other Errors

Error	Explanation
Error formatting disk.	<ol style="list-style-type: none"> <li>1. Check to see if you are using the correct disk density for this format.</li> <li>2. Check to see if the disk is write-protected.</li> <li>3. Try another disk.</li> </ol>
Error reading the disk.	<p>This error message can appear in both the Input and Output dialog boxes' message area.</p> <ol style="list-style-type: none"> <li>1. Make sure the Disk Type is correct.</li> <li>2. Make sure that there is a disk in the proper drive.</li> <li>3. Make sure pulse.exe is available either in the path or in the same directory.</li> </ol>

Error	Explanation
System date is incorrect.	<p>The system date must be correct for the Security device to work properly.</p> <p>To correct the system date:</p> <ol style="list-style-type: none"> <li>1. Click OK.</li> <li>2. Choose Tools-Update Security Device. <i>You see the Update Security Device dialog box.</i></li> <li>3. Click Reset Date. <i>You see a Reset Security Device Date dialog box.</i></li> </ol>
<p><b>Note:</b> Keep the dialog on-screen and call your distributor. Tell the support person that you have a "System date is incorrect" message and would like an RDA code.</p>	
	<ol style="list-style-type: none"> <li>4. Read the reset date request (RDR) code to the Support person.</li> <li>5. The Support person will check the code and will give you an RDA code.</li> <li>6. In the Reset Security Device date dialog box, enter the RDA code.</li> <li>7. Click OK. After a few seconds, you should get a "Device date successfully reset" message. If you get a "This is not the correct RDA code" message, ask the Support person to repeat the code and retype it.</li> <li>8. Restart the program.</li> </ol>

## Fonts

Problem	Possible Solution
I do not have any fonts.	<p>Check your current font folder. Your current font folder probably does not contain any font files if you do not have fonts to choose from when you try to use the text tools.</p> <p>To change your font folder:</p> <ol style="list-style-type: none"> <li>1. Choose Tools-Configuration-User Settings.</li> </ol> <p>You see the Settings property pages.</p> <ol style="list-style-type: none"> <li>2. Click the File Location property page.</li> <li>3. Make sure the Embroidery Font path is correct (Program data\Tajima\DG16 by Pulse\Fonts).</li> <li>4. Click OK.</li> <li>5. Exit Tajima DG16 by Pulse and restart it for the change to take effect.</li> </ol>
<p><b>Note:</b> If you are not sure where your font files are located, use the Find File program included with Windows to search for "ped008.*"</p>	
I want more TrueType® fonts.	<p>Windows® comes with some basic TrueType® fonts, but you can purchase more fonts from computer software stores (on disk or CD-ROM).</p> <p>To install more TrueType® fonts see "Installing TrueType® fonts".</p>

## Designs

Problem	Possible Solution
I cannot save a design.	<p>There may be many reasons why you cannot save a design.</p> <p><b>Quit all the programs you do not need.</b></p> <p>Close any documents you do not need, quit any programs you are not using, and then try to start the program again.</p> <p><b>Restart the computer.</b></p> <p>Sometimes restarting the computer helps to clear up any problems you are having. Close any programs you are running before you shut down.</p> <p>To restart the computer:</p> <ol style="list-style-type: none"> <li>1. Click Start.</li> <li>2. Choose Shut Down.</li> <li>3. Select Restart the Computer.</li> </ol> <p>If this problem does not go away after you have restarted the computer, start the Memory Troubleshooter in Windows®.</p> <p><b>Check to see how much free disk space you have.</b></p> <p>You may not have enough free space on your hard disk to save the design.</p> <p>To check for free disk space:</p> <ol style="list-style-type: none"> <li>1. Right-click the My Computer icon.</li> <li>2. Choose Properties from the menu.</li> <li>3. Click the Performance tab to see how much memory you have on your computer.</li> </ol>

Problem	Possible Solution
	<p><b>Empty your Recycle Bin.</b> Emptying your Recycle Bin will free disk space. To empty your Recycle Bin:</p> <ol style="list-style-type: none"> <li>1. Double-click the Recycle Bin icon.</li> <li>2. Choose File—Empty Recycle Bin.</li> </ol> <p>To optimize disk space:</p> <ol style="list-style-type: none"> <li>1. Choose Start—Programs—Accessories—System Tools—ScanDisk or System Tools—Disk Defragmenter.</li> <li>2. Run one or both of the programs to improve the computer's performance.</li> </ol>
<p><b>Note:</b> Before running the disk defragmenter, make sure that all programs are closed and disabled. Also make sure that your screen saver is disabled.</p>	
	<p><b>Clear space on your hard disk.</b> You may need to clear space on your hard disk if you try to save a design and you receive a message telling you that you have no space on your hard drive. In this case, see the Windows® online Help's Troubleshooting section.</p> <p>Windows Explorer allows you to navigate through your hard drive. From here you should delete any files you do not need. After deleting the files, empty your Recycle Bin.</p> <p>To delete files using Windows Explorer:</p> <ol style="list-style-type: none"> <li>1. Click Start.</li> <li>2. Choose Programs—Windows Explorer.</li> <li>3. Select the files you want to delete.</li> <li>4. Choose Edit—Delete.</li> </ol>

Problem	Possible Solution
<p><b>Note:</b> We recommend that you backup any files from your hard disk that you still want to keep, but will not need very often. Backing up files is the process of moving files from your hard disk onto another media (floppy disks, computer storage tapes, or write-enabled CD-ROMs) that you can store somewhere else. Windows® comes with a backup program which allows you to backup and restore files.</p>	
<p>I cannot find my designs</p>	<p>There may be a variety of reasons why you cannot find your designs. Please see the topics below for possible suggestions to solve your problem.</p> <p><b>You may not be linked to the correct folder.</b> Try looking in a different folder. By default your design folder is \Program data\Tajima\DG16 by Pulse\ Designs. You can store designs in another folder; however, it is best to organize your designs in one place so you can keep better track of them.</p> <p><b>Outline and Stitch files have different file extensions.</b> Tajima DG16 by Pulse unified files have a *.pxf file extension. Pulse version 9.1 or older Outline files have *.pof, *.ped or *.kwk file extensions and Stitch files have *.psf or *.pch file extensions.</p>

## Inputting and Outputting

Problem	Possible Solution
I am having problems with a Melco Condensed design	<p>The most common problems associated with the design are missing stitches, incorrect density and incorrect stitch counts.</p> <p>To correct missing stitches in Fills:</p> <ol style="list-style-type: none"> <li>1. Choose Tools—Configuration—User Settings.</li> <li>2. Click the Compatibility property page.</li> </ol> <p>The fill angle setting can vary depending on how the design was punched.</p> <ol style="list-style-type: none"> <li>3. Choose Use average fill angle setting.</li> <li>4. Reread the Melco design.</li> </ol> <p>To correct the density or stitch count:</p> <ol style="list-style-type: none"> <li>1. Choose Tools—Configuration—User Settings.</li> <li>2. Click the Melco property page.</li> </ol> <p>Because Melco calculates density differently, we have included a separate setting for Melco density. Changing the default density allows you to adjust the density for Melco designs.</p> <ol style="list-style-type: none"> <li>3. In the Default density box, enter the density.</li> <li>4. Reread the Melco design.</li> </ol>

Problem	Possible Solution
I cannot input a design from a disk.	<p>There may be a variety of reasons why you cannot input a design from a disk. Please see the topics below for possible suggestions to solve your problem.</p> <p><b>You may not be using the correct disk format.</b> Make sure that you are trying to read the disk's correct format. For example, if there is a Tajima disk in the drive make sure that the Disk Type and File Type in the Input dialog box are also set to Tajima.</p> <p><b>Your disk may be damaged.</b> It is also possible that the disk is damaged. To check if the disk is damaged, you can run the ScanDisk and surface test tools included with Windows on many machine disks, except Melco, Barudan, Marco, ZSK, Brother 46, or Stellar series disks.</p> <p><b>You may need a special disk type.</b> If you are reading from a Melco or Brother 300 series disk, you must have a special disk controller card installed on your computer.</p>



## Other Possible Problems

Problem	Possible Solution
I am having problems formatting a disk in Tajima DG16 by Pulse.	<p>You may not be formatting the disk correctly. Currently, there are two methods to format a disk in Tajima DG16 by Pulse:</p> <p><b>Formatting Method 1</b></p> <ol style="list-style-type: none"> <li>1. Choose File—Output to start the Output Wizard.</li> <li>2. When the Output Design dialog box appears, click Format.</li> </ol> <p><b>Formatting Method 2</b></p> <p>Choose File—Format Disk.</p>
<p><b>Note:</b> Formatting Method 2 is recommended because the system automatically starts the formatting process. There are no additional steps required. However, when you use Formatting Method 1, the system displays a list of files on the disk. If the disk is blank, the additional step could take time, especially for disk formats such as Melco, Brother 310, 326, or 340.</p>	
My computer seems slower than usual.	<ul style="list-style-type: none"> <li>• Turn the Turbo switch on. If the turbo light is off, then your computer is running slower than it should be.</li> <li>• Run the ScanDisk and Disk Defragment tools regularly to ensure that your hard disk is running efficiently. It is always a good idea to clear space on your hard disk regularly.</li> <li>• Adding memory (RAM) can often have a dramatic impact on speed.</li> </ul>
My mouse does not work.	<ul style="list-style-type: none"> <li>• Verify the mouse connection at the back of the computer because the mouse may not be connected properly.</li> <li>• Verify that you are using the proper mouse driver. Refer to the Windows online Help for further information.</li> </ul>

Problem	Possible Solution
The screen does not look right.	<p>You should check your monitor's resolution. Your video resolution is probably set very low (640x480 or 800x600). Although Tajima DG16 by Pulse is designed to work at any resolution, we recommend that you set your resolution to a minimum of 1024x768 with 256 colors.</p> <p>To change your resolution:</p> <ol style="list-style-type: none"> <li>1. Right-click the Windows desktop.</li> <li>2. Choose Properties from the menu.</li> </ol> <p>You see the Properties dialog box.</p> <ol style="list-style-type: none"> <li>3. Click the Settings property page.</li> <li>4. Do one or both of the following steps: <ul style="list-style-type: none"> <li>• Move the Desktop area slider to the right to increase the amount of information that can be displayed on your screen.</li> <li>• Change the Color palette setting to at least 256 colors.</li> </ul> </li> </ol> <p>These settings are limited depending on the type of monitor and video card you have. Consult the Windows documentation for more help on altering these settings.</p>
I cannot print.	<p>Your printer may not be set up properly. Refer to the Windows online help to check your printer set up.</p>



# Glossary

## **3D View**

The 3D View provides a realistic preview of the stitching, preprogrammed on a fabric background with 3D view. You can also create your own fabric background with 3D View. See also *MultiView Paradigm*. Use the Show 3-D Stitches tool to view stitches in 3D directly in the Design window. Viewing stitches in 3D provides a realistic view of your stitches, giving you a better idea of how the stitches will look.

## **Active**

The active segment or group of segments is enclosed in a box with handles. To make another segment or group active, select another segment or group in the design.

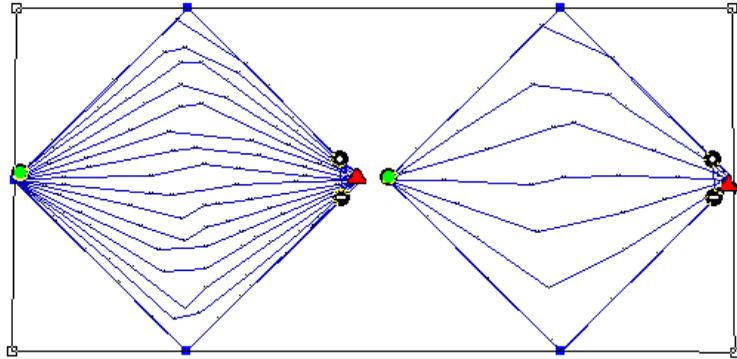
## **Anchor points**

Anchor point is a fixed point used when rotating, scaling or mirroring a design. When you use the Punching tools, you can place anchor points anywhere along a path. You can add or delete anchor points on any path. You can also drag an anchor point to change the shape of the path. The direction points of each anchor will be displayed only when the anchor is selected, which will allow for greater clarity of designs particularly on complicated designs with many outline points. The greater number of anchor points, the finer control you have over the shape of the path. The first and last anchor points on an open path are called endpoints.

<b>Appliqué</b>	Embroidery process that involves using cut pieces of fabric in place of large fill stitch areas. The fabric pieces are sewn into the design. The process is used to reduce stitch counts in large designs and/or to create a unique appearance.
<b>Arc</b>	A curved shape similar to a half circle. A baseline shape.
<b>Automatic trim</b>	An automated machine process that cuts the top and bobbin thread when directed by data stored in a design file. This function is usually used after a jump or a color change. This process eliminates the need for manual trimming.
<b>Backing</b>	Woven and non-woven material used underneath the item or fabric being embroidered to provide support and stability. Can be hooped with the item, or placed between the machine throat plate and the hooped garment. Available in various weights and in two basic types: cutaway and tearaway.
<b>Baseline</b>	A line in which lettering segments sit.
<b>Bead</b>	See <i>Direction lines and points</i> .
<b>Bean Stitch</b>	Three stitches placed back and forth between two points. Often used for outlining because it eliminates the need for repeatedly digitizing a single-ply running stitch outline.
<b>Bezier Curves</b>	A method of drawing shapes. In Bezier mode, you can enter both straight and curved points. You draw lines by setting anchor points and curves by dragging direction points and lines.
<b>Birdnesting</b>	Collection of thread between goods and needle plate, resembling a bird's nest. Formation of a bird's nest prevents free movement of goods and may be caused by: inadequate tensioning of the top thread in the needle plate hole; top thread not through take-up lever; top thread not following thread path correctly; or flagging of goods.

<b>Bitmap Images</b>	Paint and image-editing software such as Corel Photo-Paint and Adobe PhotoShop generate bitmap images, also called raster images. Each pixel in a bitmap image has a specific location and color value assigned to it. Bitmap images reproduce the subtle shading found in continuous-tone images, such as photographs. Bitmap images are resolution dependent. They represent a fixed number of pixels; as a result, they can lose detail and appear jagged if they are scaled on-screen.
<b>Bleeding</b>	Bleeding occurs when stitching falls between the fibres of the fabric and "bleed" into the fabric, resulting in the loss of a crisp outline for the design.
<b>Bobbin</b>	Spool or reel that holds the bobbin thread, which helps form stitches on the underside of the fabric.
<b>Boring</b>	A production process in which a sharp-pointed instrument or laser punctures, or bores, the fabric. This is followed by stitches being inserted around the opening to enclose the raw edges, while leaving a bordered hole.
<b>Bridge Machine</b>	Type of embroidery machine with heads suspended from a bridge or beam, allowing the pantograph a wider range of movement from front to back (Y-axis) of the machine table.
<b>Chain Stitch</b>	(1) Stitch that looks like a chain link. A flat stitch created on a chenille machine usually used as outline to define moss (loop) areas; (2) also used to define chevron stitch used in standard embroidery.
<b>Chenille</b>	Type of embroidery in which a loop stitch is formed on the topside of the fabric. Uses heavy yarns of wool, cotton or acrylic which are pulled up from reverse side of the fabric using a hook. Also known as loop piling. Created by a stitch machine that has been adjusted to form this stitch type.

<b>Colorfast</b>	A thread's ability to retain its color during normal wear and laundering.
<b>Column Stitch</b>	Formed by closely arranged zig-zag stitches. Often used to form borders. See also <i>Satin Stitch</i> .
<b>Combine Jumps</b>	A setting that helps you avoid unnecessary trims in a design. When the embroidery machine has to go to the next part of a design and that position is more than 12 mm away, a jump stitch is used. If three or more jump stitches are used, the embroidery machine activates the trimming mechanism unless Combine Jumps is selected.
<b>Complex Fill</b>	A digitizing capability that allows void areas to be designated as such when mapping perimeter points, allowing digitizing of fill areas without sectioning.
<b>Condensed Format</b>	Method of digitizing in which a proportionate number of stitches are placed between defined points after a scale has been designated. With a machine or computer that can read condensed format, the scale, density and stitch lengths in a design may be changed. Also referred to as Outline Format.
<b>Contour underlay</b>	Contour underlay, sometimes called edge-walk underlay, places one line of underlay around the edge of the shape. Use the Inset Distance setting to adjust how far the underlay is from the edge of the shape.



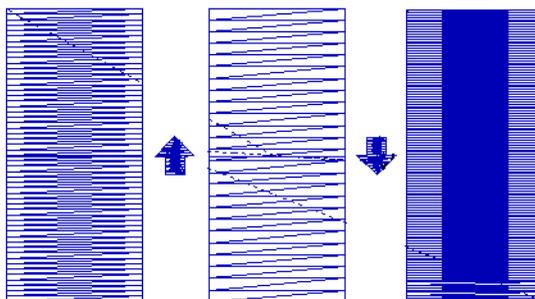
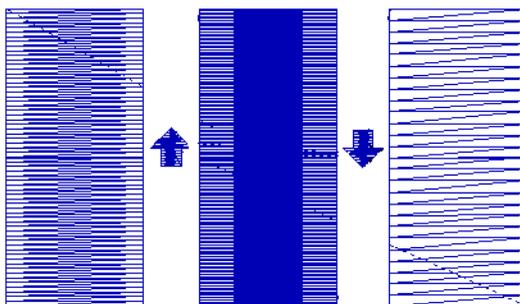
- Cording** The attachment of any type of round, decorative cord. Can be achieved by adding a cording device to a machine.
- Copyright** A legal form of protection provided to creators of "original works of authorship" including literary, dramatic, musical, artistic and certain other intellectual works. It is available to both published and unpublished works.
- Cross Stitch** Two stitches that cross at the center to form an X.
- Cupping** The curling of dense designs on fabrics that are improperly stabilized. See also *Puckering*.
- Cylinder Arm Machine** A machine with a structure that makes it possible to embroider curved or unusually shaped articles, such as caps, sleeves and pants legs on finished garments.
- Denier** Unit of weight used to measure the fineness of thread. Equal to weight in grams of 9000 meters of thread. Deniers are represented by the weight of the strands of thread, a slash, and the number of strands per thread, 120/2 Den.

**Density**

Density is the number of stitches covering a given area. Large letters, large fill areas and textured fabrics, generally need higher densities. The reverse is true as well.

There are two measuring systems used in calculating density: Imperial and Metric. The Imperial system measures density in stitches per inch (spi). 65spi means 65 stitches in a 1 inch (linear) area. The Metric system measures density in embroidery points (pt). Points refers to the distance between each thread.

To increase density with the Imperial system, you increase the measurement number. With the Metric system, a higher number of points indicates a lower density. The following example shows what happens when you increase and decrease the density in embroidery points and stitches per inch.

**Embroidery Points (pt)****Stitches per Inch (spi)**

Here are two examples of density conversions:

**Embroidery points to millimeters**

1 pt = 0.1 mm

**Embroidery points to stitches per inch**

4 pt = 63.5 spi

If you have a Fill stitch with a density of 63.5 spi, the distance between each thread is 4 pts. You adjust density according to the fabric and the design's size. Generally, lighter fabrics and smaller designs require fewer stitches.

**Density Conversion  
Tables**

**Stitches Per Inch (SPI) to Embroidery Points (PT)**

SPI	PT	SPI	PT	SPI	PT	SPI	PT
20	12.7	37	6.9	54	4.7	70	3.6
21	12.1	38	6.7	55	4.6	71	3.6
22	11.5	39	6.5	56	4.5	72	3.5
23	11	40	6.4	57	4.5	73	3.5
24	10.6	41	6.2	58	4.4	74	3.4
25	10.2	42	6.0	59	4.3	75	3.4
26	9.8	43	5.9	60	4.2	76	3.3
27	9.4	44	5.8	61	4.2	77	3.3
28	9.1	45	5.6	62	4.1	78	3.3
29	8.8	46	5.5	63	4	79	3.2
30	8.5	47	5.4	64	3.9	80	3.2
32	7.9	49	5.2	65	3.9	81	3.1
33	7	50	5.1	66	3.8	82	3.1

**Inches (IN) to Embroidery Points (PT)**

IN	PT	IN	PT	IN	PT	IN	PT
.10	25	.20	50	.30	76	.40	101
.11	27	.21	53	.31	78	.41	104
.12	30	.22	65	.32	81	.42	106
.13	33	.23	56	.33	83	.43	109
.14	35	.24	60	.34	86	.44	111
.15	38	.25	63	.35	83	.45	114
.16	40	.26	66	.36	91	.46	116
.17	43	.27	68	.37	93	.47	119
.18	45	.28	71	.38	96	.48	121
.19	48	.29	73	.39	99	.49	214

**Design Window**

The unified design window holds both outlines and stitches in opened design files.

**Design Workspace**

The design workspace includes the toolbars, menus, ribbon, and the design window containing the design you are editing. The way many of the tools work and the look of the workspace is controlled in the Environment user settings. You can change the look and functionality of your design workspace by changing these settings.

**Digitizing**

Modern term for punching reflecting the computerized method, converting artwork into a series of commands to be read by an embroidery machine's computer. See also *Punching*.

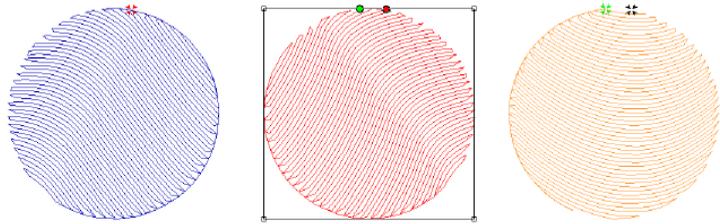
**Direction lines and points**

When you create curved segments and select an anchor point, the anchor point has one or two lines extending from it. These lines are called direction lines. The points at the end of the direction lines are called direction points. The positions of direction lines and points determine the size and shape of a curved segment. You can change the shape of curved paths by moving the direction lines and direction points. The angle of each direction line determines the slope of the curve. The length of each direction line determines the height or depth of the curve.

### Start and Stop beads

Start beads are the green beads  that indicate the location of the first stitch of the segment. This will be the first stitch that will be sewn. Stop beads are the red triangle beads  that indicate the location of the last stitch of the segment. This will be the last stitch that will be sewn.

If the Start and Stop beads are placed properly, the design sews more efficiently. Therefore, you want to place your Start and Stop beads close to each other or even on top of each other. The Start and Stop beads of one segment should also be close to the Exit  point of the previous segment and Entry point  of the next segment so that you eliminate the need for extra trims.



Exit point of the previous segment

Start and Stop beads of the selected segment

Entry point of the next segment

These three segments are to be sewn in a row. Notice the positioning of all the beads.

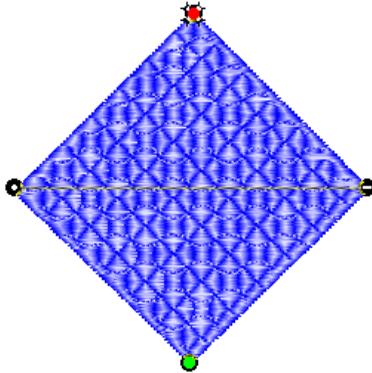
### Angle Line beads

Angle Lines have 3 parts: the dot bead, the dash bead, and the line joining the beads. An Angle Line bead is a black bead with either a dot or a minus sign in it. When you place Angle Line beads, the first one is  and the second one is .

These beads determine the angle of the stitches in the segment. You **must** place all Angle Line beads in the same direction. Therefore, if you started by placing the Angle Line beads from left to right, you need to continue placing them in this way throughout the segment.

You can add additional angle lines using the Angle Lines  tool

in the Edit toolbar. Or, you can delete existing Angle Lines by right-clicking the Angle Line bead and selecting Delete.



*Angle Line beads on a Complex Fill segment.*

**Downloading**

The transfer of designs/data from the Internet to a computer. The transfer of designs/data from a computer or network to a machine.

**Drive**

The Drive is the part of the computer that turns a disk to retrieve and store information. Personal computers usually have one hard disk drive labeled C and two floppy disk drives labeled A and B. The CD-ROM drive is usually labeled D.

**Emblem**

Embroidered design with a finished edge, commonly an insignia or identification, usually worn on outer clothing. Historically an emblem carried a family crest, motto or verse, or suggested a moral lesson. Also referred to as a patch.

**Embroidery**

Decorative stitching on fabric. Generally involves non-lettering designs, but can also include lettering and/or monograms. Evolved from hand embroidery, to simple one-head manual sewing machines, schiffli machines with hundreds of needles, to high-speed multi-head machines. Evidence of embroidery exists during the reign of Egyptian pharaohs, in the writings of Homer, from the Crusaders to the 20th century.

<b>Enhanced Main View</b>	The Enhanced Main View provides a graphical view of the design that can be zoomed or faded allowing you to examine the details in the design. The Enhanced Main View allows you to display hoops and view stitches using either show stitches or using the 3D View. You can also highlight stitch exceptions, navigate through the design's stitches, and use the stitch direction marker to show the direction of the thread.
<b>Envelope</b>	Envelopes are boxes with handles that allow you to change the shape of the text or segment.
<b>Expanded Format</b>	Individual stitches in a design that have been specifically digitized and are fixed in place. Generally, designs digitized in this format can't be enlarged or reduced more than 10-20% without distortion because the stitch count remains constant.
<b>Facing</b>	Material hooped or placed on top of items to be embroidered that have a definable nap or surface texture, such as corduroy and terry cloth. The facing compacts the wale or nap and holds the stitches above it. Includes a variety of substances such as plastic wrap, water soluble plastic "foil", and open weave fabric which is chemically treated to disintegrate with the application of heat.
<b>Feathering</b>	Similar to bleeding where the edge of a satin stitched area shows an indistinct edge against the fabric background.
<b>Files of type</b>	The Files of type box is a list of the file types that are available. The current type of file and its extension are displayed in the list. You can open only the file type selected in the Files of type list.
<b>Fill Stitch</b>	Series of running stitches commonly used to cover large areas. Different fill patterns can be created by altering the angle, length, and repeat sequence of the stitches.

<b>Finishing</b>	Processes performed after embroidery is complete. Includes trimming loose threads, cutting or tearing away excess backing, removing facing, cleaning any stains, pressing if needed, and packing for sale or shipping.
<b>Flagging</b>	Up and down motion of goods under action of needle, named after the motion of a waving flag. Often caused by improper framing of goods, flagging may result in poor registration, unsatisfactory stitch formation and "birdnesting".
<b>Folders</b>	In Windows® your designs are stored in folders. In previous Windows® versions folders were called directories.
<b>Fox Test</b>	Method of testing thread tension and soundness of timing. Sew the word FOX in 1-inch satin block letters with each needle, then examine the reverse side for skipped stitches and correctly balanced ratio of top thread to bobbin thread. The correct balance is generally considered to be a one-third ratio of bobbin to two-thirds top thread. These letters are used because they require the movement of the pantograph in all directions, increasing the likelihood that the beginnings of timing irregularities will be discovered.
<b>Frame</b>	Holding device for insertion of goods under an embroidery head for the application of embroidery. May employ a number of means for maintaining stability during the embroidery process, including clamps, vacuum devices, magnets or springs. See also <i>Hoop</i> .
<b>Guide Stitch</b>	A series of stitches used to line up placement of subsequent embroidery in multiple hooping situations, or assist in placement of fabric pieces for appliqué.
<b>H Test</b>	A thread tension test in which one 1" block letter h is sewn for each needle bar. The reverse side of the completed embroidery should show a ratio of two-thirds top thread to one-third bobbin thread.

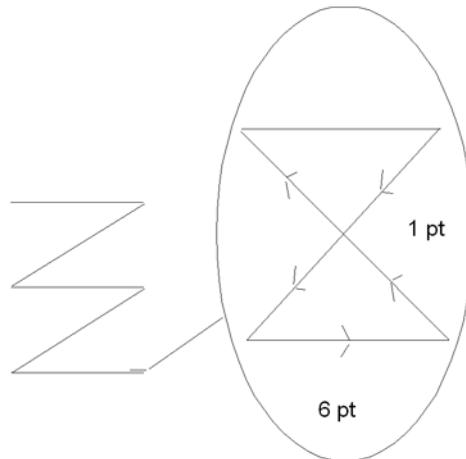
<b>Handles</b>	Handles are the small boxes at each corner of the selection box you see around active segments. If you point to a handle, the pointer becomes a double-sided arrow. You can click and drag the handle to resize the selected segment or segments proportionally. Clicking and dragging the control points on the left and right side of a handle will resize the segment by width. Clicking and dragging the control points on the top and bottom sides of a handle will resize the segment by height.
<b>Holding Fixtures</b>	Devices used to hold or frame small or unusually shaped items, such as socks and gloves. Commonly used for delicate goods, rigid goods, gang loading applications, or to speed up the framing process to achieve production efficiency.
<b>Hook</b>	Holds the bobbin case in the machine and plays a vital role in stitch formation. Making two complete rotations for each stitch, its point meets a loop of top thread at a precisely timed moment and distance (gap) to form a stitch.
<b>Hoop</b>	Device made from wood, plastic or steel with which fabric is gripped tightly between an inner ring and an outer ring. It attaches to the machine's pantograph. Machine hoops are designed to push the fabric to the bottom of the inner ring and hold it against the machine bed for embroidering.
<b>Hoop Mark</b>	The temporary marks that remain on the fabric after the embroidery hoop has been removed. Also referred to as a Hoop Ring. Such marks can typically be removed using steam or Magic Sizing spray.
<b>Hoop Burn</b>	Permanent marks that remain on a fabric after the embroidery hoop has been removed. Unlike, hoop marks, hoop burn cannot be removed. It is the result of crushed fibers caused by a hoop that is too tight.

<b>Hooping Board</b>	Device that aids in hooping garments or items for embroidery, for hooping multi-layered items and for uniformly hooping multiple items.
<b>I Test</b>	A thread tension test in which one 1 inch capital letter I is stitched out in each of the color threads available on the machine, after which all I's are compared for consistent and correct tension.
<b>Interlock Stitch</b>	Two or more rows of overlapping satin stitches. The point of overlapping can be straight or curved. Also known as thread blending or random stitch.
<b>Jump Stitch</b>	Movement of the pantograph without needle penetration, commonly used to get from one point in a design to another.
<b>Lasso Select tool</b>	The Lasso Select tool is located on the Edit toolbar and in the Edit menu. Lasso Select allows you to select outline segments in a design by forming a polygon shape around them. Once you select one or more segments, you can edit them by using the shortcut menu commands. You can also change the segment properties by selecting Properties from the shortcut menu.
<b>Lasso Stitch Select tool</b>	The Lasso Stitch Select tool is located on the Stitch Edit toolbar. Lasso Stitch Select allows you to select stitches in a design by forming a polygon shape around them. Once you select a group of stitches, you can edit them by using the shortcut menu commands.
<b>Lettering</b>	Embroidery using letters or words. Lettering commonly called "keyboard lettering" may be created from computer software, which allows variance of letter styles, size, height, density and other characteristics.
<b>Lip Hooping</b>	This technique is also known as recessed hooping. It is useful when hooping bulky or slick fabrics, such as insulated jackets. The inner ring is pushed past the edge of the outer ring, so that the outer ring

sticks up higher, forming a lip. This helps prevent the inner ring from being pushed up during the embroidery process, and places the goods flatter to the machine table.

### Lock Stitch

(1) This stitch is formed by three or four consecutive stitches of at least a 10 point movement. It should be used at the end of all columns, fills and any element where a trim will follow, such as color changes or the end of a design. May be stitched in a triangle or a straight line; (2) Lock Stitch is also the name of the type of stitch formed by the hook and needle of home sewing machines, as well as computerized embroidery machines.



### Logo

Short for logotype. The name, symbol, or trademark of a company or organization.

### Looping

Threads that are raised unevenly on the surface of a stitched design. Most common cause is upper thread tension being too loose.

### Low-level



For Low-level Protocol, the embroidery machine must have enough internal memory to receive the design.

Low-level Protocol works like a printer. You set the software to send the design and set the machine to receive the design. The design is then transferred from the software to the machine. The embroidery machine downloads the design as if it were receiving the design from a disk. Once the download has started, the computer can be used because the download is handled in the background.

**Machine Formats**

Machine formats have their own profile settings that determine how embroidery information will be interpreted when you save design files as a machine readable format or send design files to the machine through cable. When you use machine formats, your design information displays accurately on the screen and designs are sewn correctly on each embroidery machine. You can select a specific machine format for a design when opening or saving designs.

**Manual Stitch**

Stitch used in the automatic punching process to manually plot stitches one by one.

**Mitre**

Angle created when two objects meet at a corner.

**Monogram**

Embroidered design composed of one or more letters, usually the initials in a name.

**MultiView Paradigm**

The MultiView Paradigm includes all the methods for viewing designs. Depending on your system level, you may have one or more of the different views available: Enhanced Main View, Global View, Segment List (Sequence View), and 3-D View. You can have all views open in the software at the same time.

**Needle**

Small, slender piece of steel with a hole for thread and a point for stitching fabric. Machine embroidery needles come in sharp-points for piercing heavy, tightly woven fabric; ball-points, which glide between the fibers of knits; and a variety of specialty points such as wedge-points, used for leather.

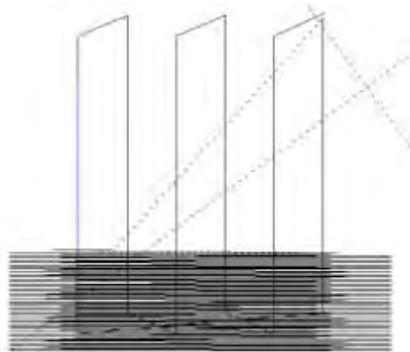
<b>Needle-Up</b>	Punching term, similar to jump, whereby pantograph movement does not entail needle penetration.
<b>Outline Format</b>	Disk format for storing and retrieving designs which allows for global (automatically changes density, size, stitch width, stitch count in a single operation) changes within that design.
<b>Outline Processor</b>	<p>Use the outline processor to modify designs by adjusting their stitch count and other settings. The outline processor allows you to set a target stitch count (absolute or percentage) and the software automatically adjusts the values of settings such as Satin density, Tatami density, Fill stitch length, Run stitch length, Fill density, and Underlay density.</p> <p>There are two modes for processing designs. In the standard mode, the values of all settings are modified by the same proportion. In advanced mode, the system modifies each setting value by different percentages in an effort to keep the overall stitch quality as close to the original design as possible.</p>
<b>Pantograph</b>	Holding device for frames and frame sash which controls movement of embroidery fabric in the X-and-Y directions, to create your embroidery design while needle remains stationary.
<b>Paths</b>	<p>A path is any line or shape that you draw using the Text or Punching tools. A path can be open, having end points such as a zig zag line, or a path can be closed, having a continuous line such as a rectangle.</p> <p>A path is any line or shape that you draw using Bezier curves. Any shape can be a path. A path can be either open or closed. A closed path has no beginning or end; for example, a rectangle is a closed path. An open path has distinct endpoints; for example, a zigzag line is an open path.</p>

**Percentage pull-compensation**

Pull-compensation is expressed as a percentage. For example, if you adjust the pull-compensation to 110%, the stitches will stitch from one side to the other a total of 10% longer than with no pull-compensation set. You can also enter a maximum range to set the maximum amount of pull-compensation.

**Perpendicular underlay**

Perpendicular underlay places underlay stitches perpendicular to the top stitching. Perpendicular is like parallel underlay, but the underlay is placed vertically.



**Pitch**

Degree of slope or angle of stitches in relation to a base line.

**Points**

Unit of stitch density measurement. 10 points equal 1 mm.

**Presser Foot**

L-shaped mechanical lever with a large opening in the base through which the needle must pass when sewing. For each stitch penetration, the presser foot comes down and pushes the fabric flat against the machine table, holding it steady for the needle to penetrate. After the needle raises back up, the presser foot rises as well, allowing the pantograph to move the garment to the next stitch point.

**Puckering**

Result of the fabric being gathered by the stitches. Many possible causes include loose hooping, lack of backing, incorrect tension, or dull needle.

<b>Punching</b>	Conversion of artwork into a series of commands to be read by an embroidery machine's computer. Derived from an early method of machine embroidery where paper tapes or jacquards punched with holes that represented stitches.
<b>Push - Pull Compensation</b>	<p>A software function that changes the width of the stitches to compensate for the "give" of a fabric. Adjusting the pull-compensation setting is useful if you are sewing on knit fabrics because these fabrics tend to stretch. Suppose that you have punched a design with a Satin border. You sew the sample and realize that there is a gap between the Satin border and Fill stitches. To solve this problem, you increase the pull-compensation.</p> <p><b>Some general rules</b></p> <ul style="list-style-type: none"><li>• Circular shapes tend to pull in at the sides and pull out at the top and bottom during sewing. You need to compensate for this by increasing the pull-compensation so that your circular shape appears oval on-screen. When you sew the shape, due to the give of the fabric, the shape sews out perfectly round.</li><li>• Straight column stitches pull in during sewing. To compensate for this pulling, you need to increase the pull-compensation.</li></ul>
<b>PXF Unified File Format</b>	The PXF file format contains outlines and stitches in a single design file. The icon and the imported bitmaps are also stored in this file.
<b>Recipe</b>	A collection of embroidery settings designed for specific fabrics.
<b>Registration</b>	Correct registration is achieved when all stitches and design elements line up correctly.
<b>RGB</b>	System for representing colors on a color monitor by mixing red, green, and blue light.
<b>Running Stitch</b>	Consists of one stitch between two points. Used for outlining and fine detail. Also known as walk stitch. There are various forms of running stitches, including the bean, the half bean, two-ply and programmed.

- Satin Stitch** Formed by closely arranged zig-zag stitches. Can be laid down at an angle with varying stitch length. Adapted from the blatt stitch used in schiffli embroidery. See also *Blatt Stitch*. Also known as a column stitch.
- Scaling** Ability to enlarge or reduce a design. In expanded format, most scale is limited to 10 to 20 percent because of the fact that the stitch count will remain constant. In condensed format, scale changes may be more dramatic as stitch count and density may be varied.
- Schiffli** Type of machine used to embroider yardgoods, such as intricate laces, emblems and appliqués. Developed in Switzerland in the 1800s, schiffli means "small boat", which refers to the boat-shaped shuttle used with the machine. Some schiffli machines weigh 10 tons and have hundreds of needles. The goods are spanned vertically, as a wall, rather than on a flat table as in multi-heads.
- Segment** A single piece of a design that is created at one time. A segment has many properties such as its size, color, sequence in designs, stitch type and values, including stitching instructions.
- Select tool** The Select tool, located in the Edit toolbar and in the Edit menu, allows you to work in Outline Mode. This tool allows you to select and modify individual or groups of outline segments. You can select outline segments by clicking on a single segment or by clicking and dragging to draw a box around parts of the design. Once you select outline segments, you can edit the segments and add commands by using the shortcut menu options. To display the shortcut menu, press Ctrl+E on your keyboard while using the Select tool.
- Sewability** The determination of whether a thread, fabric, backing, etc. can perform under normal embroidery stitching.

<b>Short Stitch</b>	A digitizing technique where in you place short stitches within the outside perimeter of a curve or 45' angle to balance outside and inside density in a satin stitch, to avoid unnecessary bulky build-up of stitches.
<b>SPM</b>	Stitches per minute. System used to measure the running speed of an embroidery machine.
<b>SPI</b>	Stitches per inch. The imperial measurement for density of stitches.
<b>Steil Stitch</b>	See <i>Column Stitch</i> .
<b>Stitch Bleeding</b>	See <i>Bleeding</i> .
<b>Stitch Editing</b>	Digitizing feature that allows one or more stitches in a pattern to be deleted, lengthened or altered.
<b>Stitch Gap</b>	The area(s) of a design without stitching, where stitching should have occurred.
<b>Stitch Select tool</b>	The Stitch Select tool, located in the Stitch Edit toolbar and in the Stitch Edit menu, allows you to work in Stitch Mode. This tool allows you to select and modify individual or groups of stitches. You can select stitches by clicking on a single stitch or by clicking and dragging to draw a box around parts of the design. Once you select stitches, you can edit the stitches and add commands by using the shortcut menu options. To display the shortcut menu, press Ctrl+E on your keyboard while using the Stitch Select tool.
<b>Stitch to Outline Conversion (STO)</b>	Software feature that allows you to convert a stitch file to an outline file or any parts of a stitch file to an outline file format.
<b>Stock Designs</b>	Digitized generic embroidery designs that are readily available at a cost below that of custom digitized designs.

<b>Style</b>	See <i>Recipe</i> .
<b>Tacking Iron</b>	Device used to fuse heat-sealable items, such as appliqués, emblems and lettering, to fabric. Also known as an Appliqué Iron.
<b>Tackle Twill</b>	Letters or numbers, cut from polyester or rayon twill fabric, commonly used for athletic teams and organizations. They have an adhesive backing to tack them in place while the edges are sewn with zig-zag stitches to attach them to a garment.
<b>Tatami</b>	Another term used to describe fill stitches. (See also <i>Fill Stitch</i> ).
<b>Tension</b>	Tautness of thread when forming stitches. Top thread as well as bobbin tension need to be set. Proper thread tension is achieved when about one-third of the thread showing on the underside of the fabric on a column stitch is bobbin thread.
<b>Thread</b>	Fine cord of natural or synthetic material made from two or more filaments twisted together and used in stitching. Machine embroidery threads come in rayon, which has a light sheen; cotton, which has a duller sheen than rayon, but is available in very fine deniers; polyester, which is strong and colorfast; and metallics, which have a high luster and are composed of a synthetic core wrapped in metal foil.
<b>Thread Blending</b>	See <i>Interlock Stitch</i> .
<b>Thread Chart</b>	A collection of thread colors for a particular brand of thread.
<b>Timing</b>	Relationship between the embroidery machine's hook and needle. To form a stitch, the hook and the loop formed by the top thread must meet at a precise moment or else improper stitch formations, thread breakage, skipped stitches, or broken needles could result.

<b>Topping</b>	See <i>Facing</i> .
<b>Trademark</b>	Any word, symbol or device used to distinguish goods and indicate the source of those goods. A trademark registered and visible on the product protects the owner from others producing something similar and fraudulently marketing it as the original.
<b>trimming</b>	(1)Operation in the finishing process that involves trimming the reverse and face sides of the embroidery, including stitches and backing. (2) Machine process in which the automatic trimmers activate and trim both the upper and lower threads. (See also <i>Automatic trim</i> ).
<b>TrueType® font</b>	<p>The difference between TrueType® lettering and embroidery lettering is that TrueType® lettering is generated from commercially available computer fonts whereas embroidery lettering has been digitized for the embroidery industry and can only be purchased through your distributor.</p> <p>Several of these TrueType® fonts are installed when you install Windows®. Because they are installed automatically, they are available to all Windows® applications, including this software. You may purchase additional TrueType® fonts from many software stores.</p>
<b>Tubular Machine</b>	See <i>Cylinder Arm Machine</i> .
<b>Underlay Stitches</b>	Stitches laid down before other design elements to help stabilize stretchy fabrics and tack down wales or naps on fabrics such as corduroy, so the design's details don't get lost. May also be used to create such effects as crowned, flat, raised areas in the embroidery, depending on how they are laid down. Using underlay can create the effect of a richer looking embroidery.
<b>Uploading</b>	The transfer of designs/data from a machine to a computer or network. The transfer of designs/data from a computer to the internet.

**Vector Images**

Vector images are images created by programs such as Adobe Illustrator (\*.ai), CoreIDRAW (\*.cdr, \*.cmx), and AutoCAD (\*.dxf). Vector images are also referred to as line art or object-based graphics. Vector images are defined by mathematical equations and, as a result, can be scaled to any size while retaining their crisp outlines and details.

**Verify**

Sample sew-out of a new embroidery design to make sure the pattern is correct.

**Walk Stitch**

See *Running Stitch*.

**Zig-zag Stitch**

A true zig-zag stitch is generated on a zig-zag sewing machine and is created by moving the needle left to right or in the X direction while the pantograph moves the fabric and creates the design. On a modern commercial embroidery machine, a zig-zag stitch is a satin stitch with very low density that looks like a Z.

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