

11

Editing Images

This chapter describes a set of tools that permit drafting and drawing in raster, erasing raster objects, cleaning images, converting vector elements into raster objects, copying and pasting pieces of images, as well as undoing and redoing image editing operations.

Overview

MicroStation Descartes provides a rich set of tools to edit images.

Clean up tools like Speckle Removal and Erase are used to remove unwanted pixels in an image, while Hole Removal is used to improve the quality of raster linework or other objects. Simple but powerful brushing tools are used to paint or edit an image. Copy and Paste tools are used to copy a region of an image and paste it to another image or to a design element.

This set also provides flexible raster drafting tools. Stamp Vector tools are used to stamp design vectors into a raster file, or to draw directly in raster with the full range of MicroStation vector drawing and annotation tools.

With these tools, you can:

- Despeckle an image.
- Fill holes in an image.
- Copy a region of an image.
- Paste a copied region to an image or to a design element.
- Dynamically draw in raster with MicroStation vector tools.
- Stamp vectors into an image.
- Brush (paint or edit with various cursors) an image.

Select the editing and raster drafting tools from the following tool boxes that can be accessed from the Tools menu of MicroStation Descartes:

- “Paint tool box” on page 11-2
- “Erase tool box” on page 11-4
- “Stamp Vector tool box” on page 11-6
- “Clean Up tool box” on page 11-20
- “Copy/Paste tool box” on page 11-23
- “Undo tool box” on page 11-24

Paint tool box




Paint tool box

Use the Paint tool box to paint raster images with interactive brushes of various shapes, or to paint inside an area.

A paint operation selectively changes the color of the image under the brush path or inside the defined area.

For images with more than two colors, only pixels with indices contained in the selected color filter are changed. The new color is the color selected with the Tool Settings window. Other pixels remain unchanged.

For two-color images, painted pixels are turned to the foreground color.

 All paint functions are applied to the active image.

Paint with Rectangular Brush tool



*Paint with Rectangular
Brush tool*

Used to paint the image interactively with a rectangular brush.

► To paint using a rectangular brush

1. Select the *Paint with Rectangular Brush* tool.
2. For images with more than two colors, select the appropriate color filter to determine the pixels to be painted, and select the target color.
3. Define a rectangle by entering two data points to determine the size of the brush.
4. Drag the brush over the active image and the pixels in the brush path are painted.

Paint with Circular Brush tool



*Paint with Circular
Brush tool*

Select *Paint with Circular Brush* from the Paint tool box to paint the image interactively with a circular brush.

► To paint using a circular brush

1. Select the *Paint with Circular Brush* tool.
2. For images with more than two colors, select the appropriate color filter to determine the pixels to be painted, and select the target color.
3. Define a circle by entering two data points to determine the size of the brush.
4. Drag the brush over the active image and the pixels in the brush path are painted.

Paint with Oblique Brush tool



*Paint with Oblique
Brush tool*

Select *Paint with Oblique Brush* from the Paint tool box to paint the image interactively with a rectangular brush rotated at any angle.

► To paint using an oblique brush

1. Select the *Paint with Oblique Brush* tool.
2. For images with more than two colors, select the appropriate color filter to determine the pixels to be painted, and select the target color.
3. Define a rotated rectangle by entering three data points to determine the size of the brush and its rotation.
4. Drag the brush over the active image and the pixels in the brush path are painted.

Paint Area tool



Paint Area tool

Used to paint the image inside an area.

► To paint inside an area

1. Select the *Paint Area* tool.
2. For images with more than two colors, select the appropriate color filter to determine the pixels to be painted, and select the target color.

3. Select the Area option.
4. If Raster Object is selected, select a color filter to determine this object.
5. Follow the instructions to define, select, or accept the area.
The pixels inside the area are painted.

☞ When the area is a raster object, this object highlights for acceptance before the paint is executed.

Erase tool box



Erase tool box

Use the Erase tool box to erase raster images with interactive brushes of various shapes, or to erase inside an area.

An erase operation changes the color of all pixels under the brush path or inside the defined area.

For images with more than two colors, the new color is the color selected with the Tool Settings window.

For two-color images, erased pixels are turned to the background color.

☞ All erase functions are applied to the active image.

Erase with Rectangular Brush tool



*Erase with Rectangular
Brush tool*

Select *Erase with Rectangular Brush* from the Erase tool box to erase the image interactively with a rectangular eraser.

► To erase an image with a rectangular eraser

1. Select the *Erase with Rectangular Brush* tool.
2. For images with more than two colors, select the color.
3. Define a rectangle by entering two data points to determine the size of the eraser.
4. Drag the eraser over the active image and the pixels in the eraser path are erased.

Erase with Circular Brush tool



*Erase with Circular
Brush tool*

Select *Erase with Circular Brush* from the Erase tool box to erase the image interactively with a circular eraser.

► To erase an image with a circular eraser

1. Select the *Erase with Circular Brush* tool.
2. For images with more than two colors, select the color.
3. Define a circle by entering two data points to determine the size of the eraser.
4. Drag the eraser over the active image and the pixels in the eraser path are erased.

Erase with Oblique Brush tool



*Erase with Oblique
Brush tool*

Select *Erase with Oblique Brush* from the Erase tool box to erase the image interactively with a rectangular eraser rotated at any angle.

► To erase an image with an oblique eraser

1. Select the *Erase with Oblique Brush* tool.
2. For images with more than two colors, select the color.
3. Define a rotated rectangle by entering three data points to determine the size of the eraser and its rotation.
4. Drag the eraser over the active image and the pixels in the eraser path are erased.

Erase Area tool



Erase Area tool

Select *Erase Area* from the Erase tool box to erase the image inside an area.

► To erase an area on an image

1. Select the *Erase Area* tool.
2. For images with more than two colors, select the color.
3. Select the Area option.
4. If Raster Object is selected, select a color filter to determine this object.

5. Follow the instructions to define, select, or accept the area.
The pixels are erased inside the area.

Stamp Vector tool box




Stamp Vector tool box

The Stamp Vector tool box is used to stamp design vector elements into raster images in the specified view.

Use Stamp Vector to:

- Add raster representation of design elements to image files.
- Edit raster using MicroStation vector drawing and annotation tools.
- Create image files that contain raster and vector information and that can be exported easily for use in other applications.

 The open/close status of the Stamp Vector tool box and all related parameters are saved with a project.

Stamping into two-color images

The 1 Bit Image Mode option menu in the Tool Settings window lets you choose the way that vector elements are stamped into a two-color image. There are three options:

- Foreground stamps vector elements with the foreground color (the color index with the smaller number of pixels in the image).
- Background stamps vector elements with the background color (the color index with the larger number of pixels in the image).
- Inverse stamps vector elements by inverting the color of a pixel. For example, if an image is black and white, pixels underlying the stamped vectors are changed from black to white or from white to black.

When you turn on the Convert 2 color images to 256 color (see “Stamp Vector Settings dialog box” on page 11-18), two-color images will be converted into 256 color images before stamping takes place. Then, the rules for 256 color images apply.

Stamping into 256 color images

The 1 Bit Image Mode option menu in the Tool Settings window is not considered when vector elements are stamped into 256 color images. Vector elements are stamped with their color or a similar color.

The easiest way of stamping vector elements into 256 color images and avoiding problems with color conflicts is to establish some color distribution rules, such as the following:

- Compress your image to 240 colors or gray levels and keep 16 colors for vector stamping.
- Set and define 16 exact design colors.
- Use only these 16 exact design colors for your design elements.

Then, no color conflict occurs.

👉 This color distribution is an example. You can use other combinations like 232 colors for the image and 24 colors for stamping vectors, for a total of 256. In this example, you can use up to 24 exact design colors.

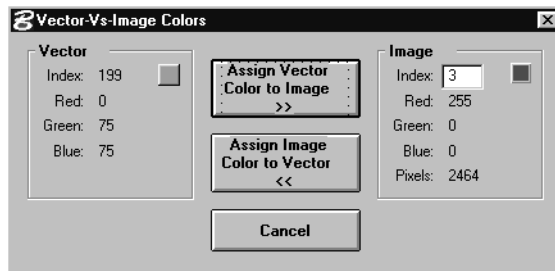
Automated Vector Stamping Settings

Match Stamp Vector Settings, comprised in the Stamp Vector tool box, allows to automatically set the Stamp Settings using the current zoom factor to determine the size for each Line Weight and Style.

Solving Color Conflicts

When the color distribution rules explained above do not apply with 256 color images, conflicts can occur. Then, the Vector-Vs-Image Colors dialog box opens and helps you to solve this conflict.

*Vector-Vs-Image Colors
dialog box*



The dialog box displays and proposes a solution when either of the following conditions occurs:

- The image color index you wish to assign to a given design color is already used by one of the images. In this case, a free index is found in the color table for this image and it is proposed.
- If there are no free indices in the color table, the index with the smallest number of assigned pixels is proposed. In either case, a dialog box displays the proposed solution for your review.



A free color index in the color table of an image is one with no corresponding pixel in the image.

With the dialog box, you can choose either of the following solutions:

- Assign the color of the vector element to a specified image index and stamp the vector element with this color.
- or
- Stamp the vector element with the color of the specified image index.

The dialog box lets you examine a color index by clicking a color button in the Image group. For each index that you examine, the color is indicated in RGB values, and the number of pixels assigned to this color is provided.

Should you need to resolve a color table conflict, here are two suggested methods:

- Examine all colors from the image palette which are similar to the present design color. Try to find one with few pixels assigned to it. Then, press the Assign Vector Color to Image button. The selected index from the image palette is changed to the present design color, as are all pixels assigned to this index. Overwriting a color with another color in the image color palette has little impact on the color rendition of the image if the colors are close to each other and if only a few pixels are assigned to this index.
- In some circumstances, it may not matter that a color is used by both the image and the stamped vector data. If this is the case, select a color from the image palette (normally similar to the present design color) and then press either “Assign” button. When there are many pixels pointing to the selected color, it is better to use the Assign Image Color to Vector

button (which avoids an impact on the color rendition of the image).

If you press Cancel, the element with the color displayed in the Vector group will not be stamped.

Stamp Vector tool



Stamp Vector tool

Use *Stamp Vector* to stamp design vector elements into raster images. Vector elements can be stamped interactively or all selected vector elements can be stamped at once.

► To interactively stamp a vector element into images

1. Unselect any selected elements by entering a data point with the MicroStation *Element Selection* tool.
2. Select the *Stamp Vector* tool.
3. Specify the view where you want to stamp vector elements.
4. If you are working with two-color images (among others), select the appropriate option from the 1 Bit Image Mode option menu in the Tool Settings window (Foreground, Background, or Inverse).
5. Identify a design vector element.
6. Accept the element (or reject and retry).

If the Confirm Stamping toggle is on (see “Stamp Vector Settings dialog box” on page 11-18), an alert dialog box displays with a list box that contains each image that will be stamped. Click OK to confirm, or cancel.

If there are no images or only read-only images underneath the vector element, it cannot be stamped and an alert displays.

► To stamp a set of vector design elements into images

1. Select the elements you want to stamp with the MicroStation *Element Selection* tool.
or
1. Place a fence around the elements you want to stamp.
Only the Inside mode is supported.
2. Select the *Stamp Vector* tool.
3. Specify the view where you want to stamp vector elements.

4. If you are working with two-color images (among others), select the appropriate option from the 1 Bit Image Mode option menu in the Tool Settings window (Foreground, Background, or Inverse).
5. Enter a data point to accept the settings.
 If the Confirm Stamping toggle is on (see “Stamp Vector Settings dialog box” on page 11-18), an alert dialog displays with a list box that contains each image that will be stamped. Click OK to confirm, or cancel.
 If there are no images or only read-only images underneath the selected vector elements, no element can be stamped and an alert displays.

With both of the above procedures, stamping occurs on all images which are on in the Image Manager list box for the specified view. That is done in a WYSIWYG manner. If a vector element is displayed over an image in the specified view, the element is stamped into the non-transparent portion of this image. If two images overlap, the vector elements stamp into both images. Transparent parts of the images are not stamped.

☞ Stamping large elements or a large number of elements may take time.

Stamp in a New File tool



Stamp in a New File tool

Used to stamp vectors, all or selection set, into a new raster file.

The raster file can be of the following forms:

- A single color raster file.
Used to “rasterize” the design file elements.
- Images displayed in a specific MicroStation view.
Used to create a “seamless” raster version of a specific view.

Use the *Stamp in a New File* tool to rasterize your design file elements or to embed them into your background images.

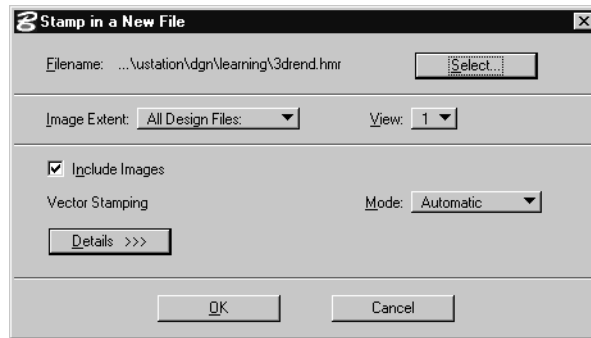
When choosing to embed the vectors in the background images, the *Stamp in a New File* tool automatically merges all of the images and creates a new file. It then embeds the design file elements into that new file.

In some other cases, it may be valuable to only create a raster representation of part of or all of the design file. In such case, no images are specified and a new raster file is created into which the design elements will be stamped.

Stamp in a New File dialog box

Upon clicking the *Stamp in a New File* tool, the Stamp in a New File dialog box opens and several parameters are accessible. These parameters are explained below.

*Stamp in a New File
dialog box*



Select button

Used to change the name and location of the new image. By default, the name of the new image file is composed of the name of the design file along with the “.HMR” extension. The location (path) of the new image file is identical to the location of the design file.

Example:

Design file: \DGN\MYDGN.DGN

New Image File: \DGN\MYDGN.HMR

To change the path and/or the file name, choose the Select button.

View

Used to specify from which MicroStation view, displaying images, to use for including images into the output image file.

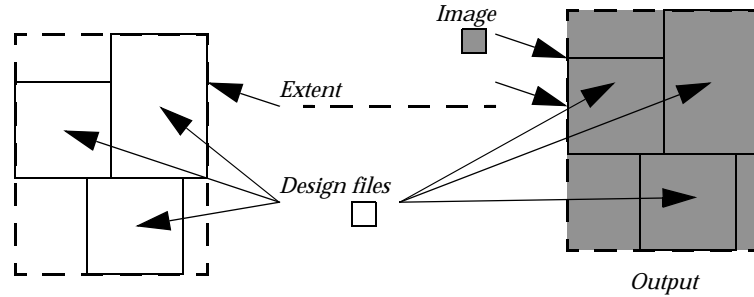
 Include Images MUST be turned ON.

Image Extent

When creating a new image file, you may require that only part of the design file be used in the resulting image. In order to determine the extent, the following options are available and will define the extent into which to include design file elements. Any design file elements exceeding this extent is cropped.

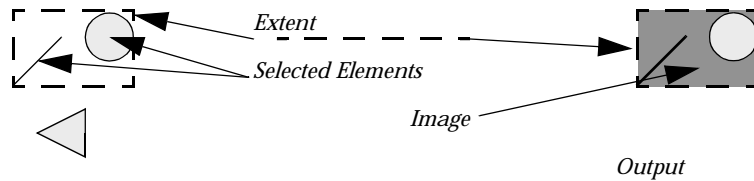
- All Design Files

Used to specify the extent of use for all opened design files. This includes the Active design file as well as any attached referenced design file.



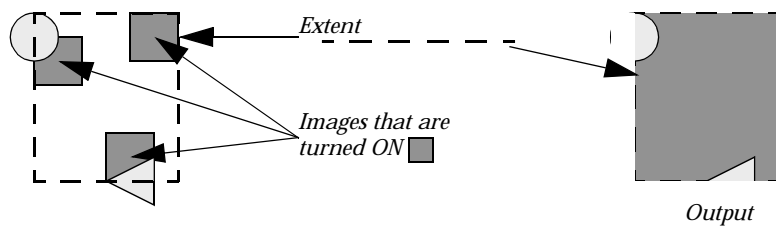
- Selected Element(s)

Used to specify the extent of use for all selected elements. This includes the Active design file as well as any attached referenced design file.



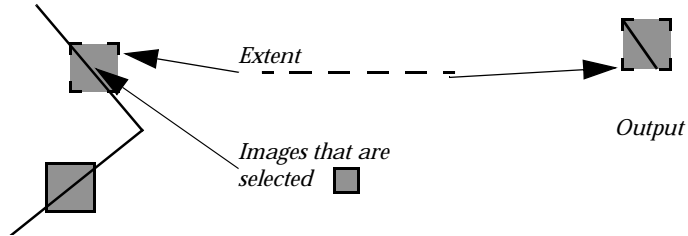
- All Images

Used to specify the extent of use for all displayed images.



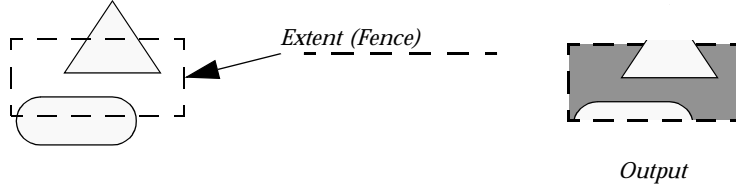
Selected Image(s)

Used to specify the extent of use for selected images.



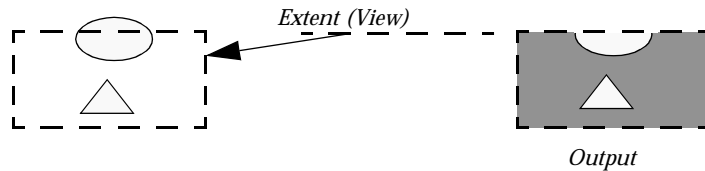
- Fence


Used to specify the extent of use for the active fence.



- View Extent

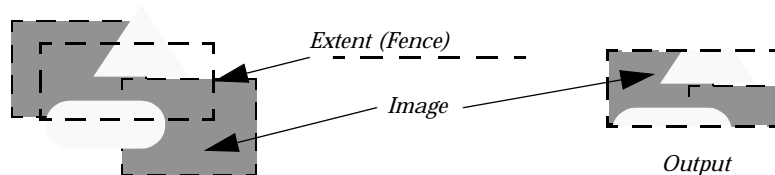
Used to specify the extent of use for the target views.



 Vectors are burned over a white background.

Include Images

Used to specify if images should be included or not. When turned ON, all images comprised in the specified *Image Extent* is/are included in the output image file. When OFF, only the vectors are processed into raster.



Mode

Used to specify the method used to calculate stamping scale and pixel size. The stamp scale determines the scale factor applied to each Line Weight and Line Style.

- Automatic

The Stamp Scale and Pixel Size is automatically determined by computing optimum values using the imagery pixel size and the average deviation between weights.

- User Defined

In this mode, required values, for the Stamp Scale and Pixel Size, are read from the “[UserPreference]” section of the “DCARTES.INI” file. Four(4) variables can be defined in this section, “PublishPixelSizeX,” “PublishPixelSizeY,” “PublishStampScale” and “PublishRasterScale”. Values assigned to these variables must be expressed in meter (m), except for PublishRasterScale which must be expressed in DPI.

When these variables are not defined in the “DCARTES.INI,” default values are assigned as follows:

PublishPixelSizeX = 1

the value is expressed in meter.

PublishPixelSizeY = 1

the value is expressed in meter.

PublishStampScale = 1

the value is expressed as a factor.

PublishRasterScale = 11810.88

the value is expressed in Scale Factor.

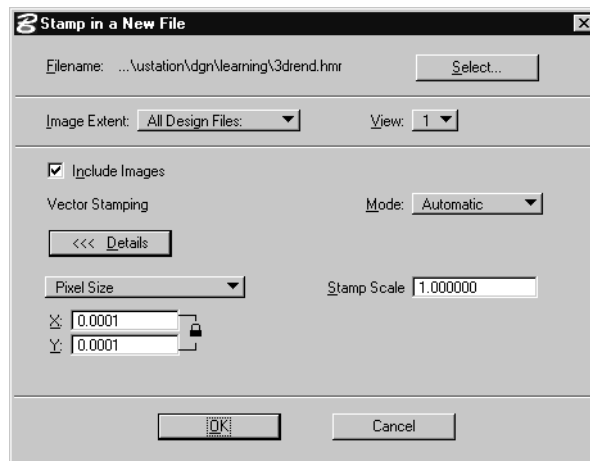
- Vector Settings

In this mode, the values are read directly from the Stamp Settings dialog box.

Details >>> and Details <<< button

Used to expand the dialog box to provide access to more settings.

*Stamp in a New File
dialog box*



Pixel Size/Scale Factor

Used to specify the resolution of the new image. The resolution can be expressed in Pixel Size or in Scale and DPI. For more information, see “Image Location Editor dialog box” on page 5-27

Stamp Scale

Used to display and edit the Stamp Scale that will be used. This field may not be editable depending on the selected Mode.

Using Stamp in a New File tool

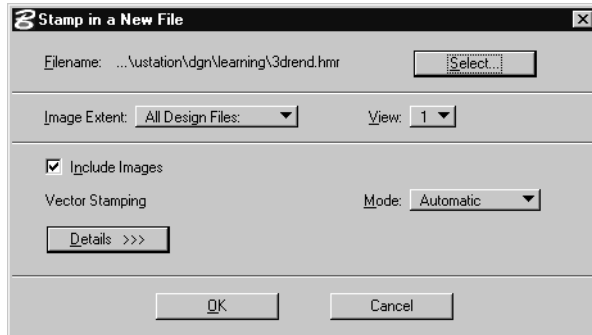
Use the following procedure to create a new raster file containing embedded vectors with or without background images.

► To Stamp in a new file

1. To stamp a subset of the design file elements, create a selection set of the elements prior to selecting the *Stamp in a New File* tool.
2. From the Stamp Vector tool box, select *Stamp in a New File* tool.

The Stamp in a New File dialog box opens.

*Stamp in a New File
dialog box*



3. Set the parameters as required and as described below:
File Name: Your choice
Image Extent: Use the extent that corresponds to your data
Mode: Automatic
Details >>>: In automatic mode, these settings are not editable.
4. Click OK.

Match Stamp Vector Settings Tool



Match All Element tool

Match Stamp Vector Settings provides an efficient way to setup the Stamp Vector Settings. Match Stamp Vector Settings sets the Working Units section using the current zoom factor to determine the size for each Line Weight and Style.

Since Line Weights and Styles always display at the same ratio regardless of the zoom factor, for each level of zoom, the element covers more or less pixels. Therefore, when zoomed far out, the element covers more pixels than when zoomed in. It is this coverage, in Working Units, that is used to modify the Stamp Vector Settings. This allows a constant ratio between View display and Raster Resolution.

🔧 The Stamp Vector Settings for PIXELS are NOT changed.

➤ **To setup Stamp Settings with Match Stamp Vector Settings**

1. From the Stamp Vector tool box, select *Match Stamp Vector Settings*.

2. Enter a data point to confirm the current zoom factor.

The Stamp Vector Settings Working Units are now modified to reflect the raster resolution size for each weight at the current zoom factor.

🔧 If you wish another zoom factor, simply select a tool of your choice and then reset to fall back to the *Match Stamp Vector Settings* tool in order to enter the data point conforming the current zoom factor.

Stamp Vector Settings tool



*Stamp Vector
Settings tool*

Selecting the *Stamp Vector Settings* tool opens the Stamp Vector Settings dialog box (See “Stamp Vector Settings dialog box” on page 11-18).

Stamp Vector Settings dialog box

The Stamp Vector Settings dialog box is used to set the line weight and line style parameters used for rasterizing the vector elements, to turn on or off the Automatic Vector Stamping toggle, and to set other parameters controlling this function.

Stamp Vector Settings

System Units for Line Weight and Line Style

Units: Working Units Scale: 1.000000

Line Weight

0: 0.1695	1: 0.3390	2: 0.5085	3: 0.6780
4: 0.8475	5: 1.0170	6: 1.1864	7: 1.3559
8: 1.5254	9: 1.6949	10: 1.8644	11: 2.0339
12: 2.2034	13: 2.3729	14: 2.5424	15: 2.7119

Line Style

	Dash	Gap	Dash	Gap	Dash	Gap	Dash	Gap
0:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1:	0.3390	0.8475	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2:	1.1864	0.5085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3:	1.8644	0.5085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4:	1.5254	0.5085	0.3390	0.5085	0.0000	0.0000	0.0000	0.0000
5:	0.6780	0.5085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6:	0.3390	0.5085	1.3559	0.5085	0.3390	0.5085	0.0000	0.0000
7:	1.6949	0.5085	0.6780	0.5085	0.0000	0.0000	0.0000	0.0000

☐ Automatic Vector Stamping
 ☐ Confirm Stamping
 ☐ Convert 2 colors images to 256 colors

OK Cancel

Stamp Vector Settings dialog box

System Units for Line Weight and Line Style

This group is used to specify the units that will be used with the parameters in the Line Weight and Line Style groups, and to scale all displayed values.

Units

Used to select between Working Units or Pixels.

Scale

All parameters in the Line Weight and Line Style group will be affected with this multiplying factor when a vector is stamped.

Line Weight

Use the Line Weight group to define each of the 16 standard line weights (0 to 15) in working units. If you are using a custom line style, the working units settings specified in MicroStation is determined automatically by the Stamp Vector tool. When a vector element is stamped into an image, the weight of a line is


translated into the corresponding width specified in working units.

Line Style

Use the Line Style group to define each of the eight styles (0 to 7) in working units. If you are using a custom line style, the working units settings specified in MicroStation is determined automatically by the Stamp Vector tool. When a vector element is stamped into an image, the style of a line is translated into the corresponding set of dashes and gaps specified in working units. You can define a sequence of up to four pairs of dashes and gaps for each line style. This sequence is drawn repeatedly when a line is stamped.

Automatic Vector Stamping

When on, all elements normally written to the design file will be stamped with the present settings.

-  This toggle is also accessible from the Image Lock dialog box. To open this dialog box, select Lock from the Settings menu of Image Manager.

Confirm Stamping

When on, an alert displays each time a vector stamping is going to take place. Confirm with OK, or cancel.

Convert 2 color images to 256 color

When on, two-color images will be converted into 256 color images before the next stamping takes place. Then, the rules for 256 color images apply.

OK

Use the OK button to save the present settings and close the dialog box.

Cancel

Use the Cancel button to close the dialog box without saving the present settings.

-  All parameters related to the Stamp Vector Settings dialog box are saved with a project.

Clean Up tool box



Clean Up tool box

Use the Clean Up tool box to remove speckles from the image, or to fill holes in raster items. The functions can be applied inside an area or over the whole active image.

Speckle removal can be applied to all types of images. A speckle is defined as a group of contiguous pixels of the foreground color or with color indices belonging to the active color filter, not larger than the value of Pixels. Speckle removal is defined as changing the corresponding pixels to the background color or to the selected color.

A hole is defined as a group of contiguous pixels of the background color, not larger than the value of Pixels. Hole removal is defined as changing the corresponding pixels to the foreground color.

Remove Speckle - Area tool



Remove Speckle - Area tool

Select *Remove Speckle - Area* from the Clean Up tool box to remove speckle from the image inside an area.

For two-color images, a speckle is defined as a small group of contiguous pixels of the foreground color.

For images of more than two colors, a speckle is defined as a small group of contiguous pixels that satisfy the selected color filter.

The maximum size of a speckle is determined by Pixels, that is its maximum extent in terms of pixels. This parameter can be manually entered in the Tool Settings window, or it can be set with the *Measure Speckle* tool. It is recommended that you use this tool to set the size of Pixels before using *Remove Speckle - Area*.

► To despeckle a two-color image inside an area

1. Select the *Remove Speckle - Area* tool.
2. Check or enter the size of a speckle (Pixels).
3. Select the Area option.
4. Follow the instructions to define, identify or accept the area.
The speckles are removed from the image inside the area.

► **To despeckle an image with more than two colors inside an area**

1. Select the *Remove Speckle - Area* tool.
2. Check or enter the size of a speckle (Pixels).
3. Select the Area option.
4. If Raster Object is selected, select a color filter to determine this object.
5. Select the color to which speckles will be changed.
6. Select the desired color filter to determine the speckle.
7. Follow the instructions to define, identify or accept the area.
The speckles are removed from the image inside the area.

Remove Holes - Area tool



Remove Holes - Area tool

Select *Remove Holes - Area* from the Clean Up tool box to remove holes from the image inside an area.

For two-color images, a hole is defined as a small group of contiguous pixels of the background color, inside a larger group of foreground pixels.

For images with more than two colors, a hole is defined as a small group of contiguous pixels which does not satisfy the selected color filter inside a larger group that satisfies the active color filter.

The maximum size of a hole is determined by Pixels, that is its maximum extent in terms of pixels. This parameter can be manually entered in the Tool Settings window, or it can be set with the *Measure Speckle* tool. It is recommended that you use this tool to set the size of Pixels before using *Remove Holes - Area*.

► **To fill holes on a two-color image inside an area**

1. Select the *Remove Holes - Area* tool.
2. Check or enter the size of a hole (Pixels).
3. Select the Area option.
4. Follow the instructions to define, identify or accept the area.
The holes are removed from the image inside the area.

► **To fill holes on an image with more than two colors inside an area**

1. Select the *Remove Holes - Area* tool.
2. Check or enter the size of a speckle (Pixels).
3. Select the Area option.
4. If Raster Object is selected, select a color filter to determine this object.
5. Select the color to which holes will be changed.
6. Select the desired color filter to determine the holes.
7. Follow the instructions to define, identify or accept the area.
The holes are removed from the image inside the area.

Measure Speckle tool



Measure Speckle tool

Select *Measure Speckle* from the Clean Up tool box to measure the size of a typical speckle on the image.

With this tool, you can interactively set the Pixels parameter which is used by the *Remove Speckle - Area* and the *Remove Holes - Area* tools. The Pixels parameter determines the maximum size of a speckle in terms of pixels. This parameter can also be manually entered in the Tool Settings of *Remove Speckle - Area* and the *Remove Holes - Area*, but it is recommended that you use *Measure Speckle* to set it.

► **To measure speckle interactively**

1. Select the *Measure Speckle* tool.
2. Enter a data point on a representative speckle.
3. Move the cursor to adjust interactively the size of a circle to the size of the speckle.
4. Enter a data point to accept the appropriate size.

The measured size is automatically set in the Pixels field, which is synchronized with the equivalent field of *Remove Speckle - Area* or *Remove Holes - Area*.

Copy/Paste tool box



*Copy/Paste
tool box*

The Copy/Paste tool box is used to copy and paste regions of images, and to set parameters that control the copy/paste capabilities.

Copy only acts on the raster objects inside an area. The pixels inside this area that are not part of the raster objects are treated as transparent when the cut region is pasted into the image.

For two-color images, an image area is defined as all pixels of the foreground color inside an area.

For images of more than two colors, an image area is defined as all contiguous pixels that satisfy the active color filter inside an area.

Copy Image Area tool



Copy Image Area tool

Select *Copy Image Area* from the Copy/Paste tool box to copy an image inside an area from the active image to the clipboard.

Paste Image Area tool



Paste Image Area tool

Select *Paste Image Area* from the Copy/Paste tool box to paste an image area from the clipboard at a specified location in the active image.

When Paste Image Area is selected, the outline of the image area in the clipboard displays under the cursor. Move it to the desired location and enter a data point to paste the image area.

Paste Image Area as Design Element tool



*Paste Image Area as
Design Element tool*

Select *Paste Image Area as Design Element* from the Copy/Paste tool box to paste the raster object in the clipboard at a specified location as a design raster element.

When this tool is selected, the outline of the raster object that is in the clipboard displays under the cursor. Move it to the desired location and enter a data point to paste the object.

Parameters that control this operation are set in the Copy Settings dialog box.

Copy Image Settings tool



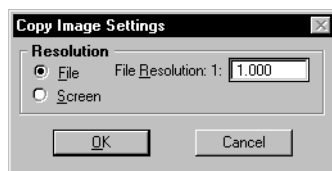
Copy Image Settings tool

Select *Copy Image Settings* from the Copy/Paste tool box to open the Copy Image Settings dialog box (See “Copy Image Settings dialog box” on page 11-24).

Copy Image Settings dialog box

Use the Copy Image Settings dialog box to choose the resolution of the pasted element.

Copy Image Settings dialog box



File Resolution

Use File Resolution to specify the resolution of the raster element to be copied in a design file.

File

If on, file resolution is used to generate the copied object.

Screen

If on, screen resolution, usually 75dpi, is used to generate the copied object.

Undo tool box



Undo tool box

Use the Undo tool box to undo or redo raster editing operations, and to set parameters controlling the undo capability.

Undo Image tool



Undo Image tool

Select *Undo Image* from the Undo tool box to undo the last raster editing operation. Undo reverts the image to its state before the previous operation was executed. Each prior operation can be undone sequentially.

Redo Image tool



Redo Image tool

Select *Redo Image* from the Undo tool box to undo the last undo. Redo reverts the image to its state prior to the last undo. Prior Undo operations can be redone sequentially.

Undo Image Settings tool



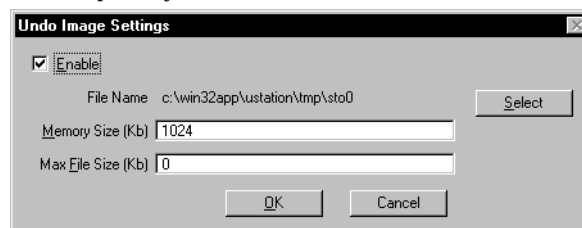
Undo Image Settings tool

Select *Undo Image Settings* from the Undo tool box to open the Undo Image Settings dialog box.

Undo Image Settings dialog box

Use the Undo Image Settings dialog box to turn on or off the undo capability and to control the buffer for the undo.

*Undo Image Settings
dialog box*



Enable

Use Enable to turn on or off the undo capability.

Filename


Use Filename to specify the file containing the undo buffer on disk. If left blank, the name is chosen by the system.

Memory Size

Use Memory Size to set the size of the undo buffer in RAM memory. If set to 0, the maximum memory available is used.

Max File Size

Use Max File Size to set the size of the undo buffer on disk. If set to 0, the maximum space available is used.

-  Disk space is used for storing undo/redone operations only when the value (RAM) specified in the Memory Size field is exceeded.

