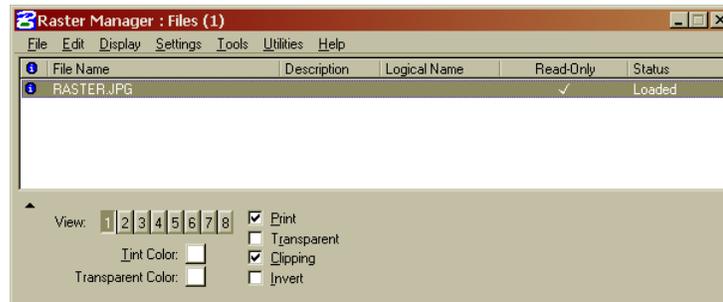


## 2.0 Navigating Bentley Descartes

This chapter describes how to navigate through the user interface to access all functions or features such as dialog boxes, tool boxes, tools, or any specific item in the Raster Manager menu structure that is added or modified by the Bentley Descartes application.

Bentley Descartes uses the Raster Manager main dialog to display its menus. The Raster Manager menu bar provides access to seven menus.



- The *File menu* is not modified by the Bentley Descartes application.
- Several items are added to the *Edit* menu and some items are modified by the Bentley Descartes application.
- One (1) item is added to the *Display* menu by the Bentley Descartes application.
- Three (3) items are added to the *Settings* menu by the Bentley Descartes application.
- The *Tools* menu is added to the Raster Manager menu structure by the Bentley Descartes application.
- The *Utilities* menu is added to the Raster Manager menu structure by the Bentley Descartes application.
- The *Help* menu is added to the Raster Manager menu structure by the Bentley Descartes application.

The table below illustrates the menus and menu items that are specific to Bentley Descartes (highlighted in yellow) as well as those that are modified by the Bentley Descartes application (highlighted in blue).

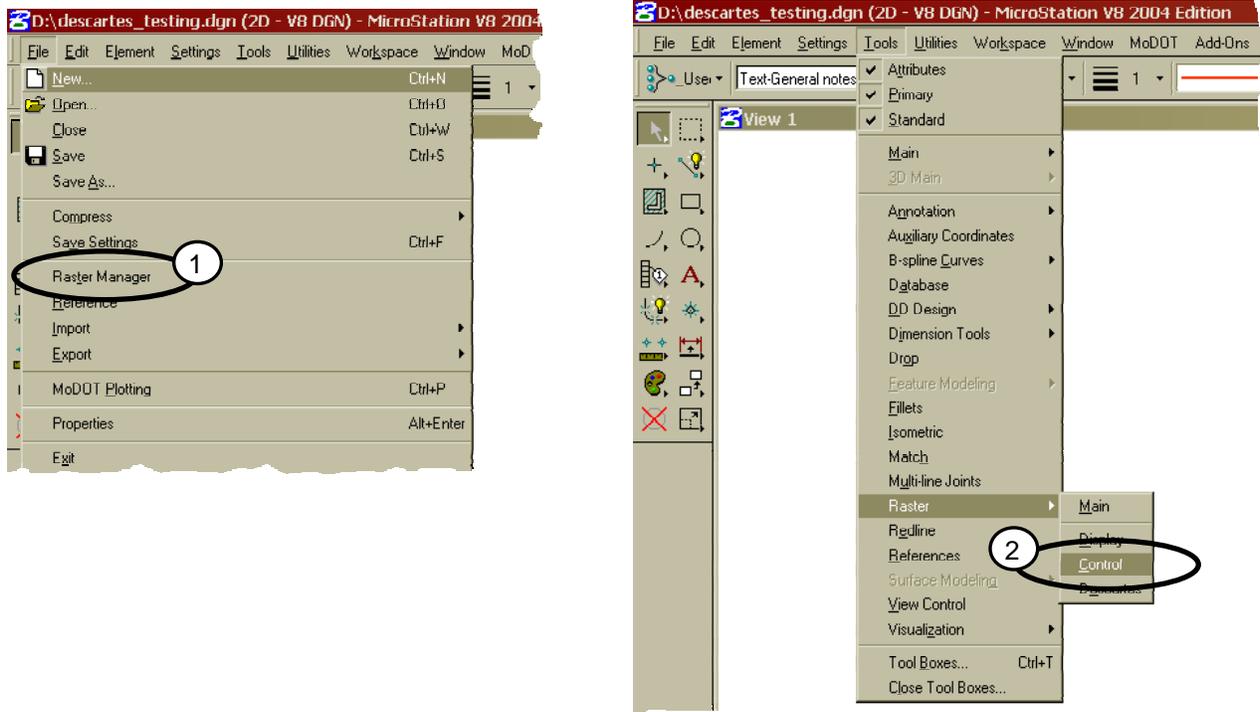
File	Edit	Display	Settings	Tools	Utilities	Help
Attach...	Modify	References	Attachment...	Raster	Color Compression...	Contents
Detach	Move	Bring To Front	Descartes Attachment...	Color Mask	Color Mask...	About Descartes
Detach All	Scale	Send To Back	Update Sequence...	Copy/Paste	Register...	
Reload	Rotate	Bring Forward	Raster Snap On Tentative...	Mosaic	Resampling...	
Save As...	Mirror	Send Backward	Stamp Vector...	Node File		
Project	Warp	Fit Rasters To View	Image Servers...	Register		
Batch Convert	Square	Fit All Rasters To View		Stamp Vector		
	Merge/Crop	Actual Resolution (1:1)		Text/Cells		
	Corridor	Align View to Raster		Touch-up		
	Clip			Vectorize		
	Unclip					
	Modify Clip					
	Cut					
	Copy					
	Paste					
	Color Table...					

## 2.1 Raster Manager Dialog Box

All Bentley Descartes functions can be accessed from the Raster Manager dialog box.

### To open the Raster Manager dialog box

1. From the MicroStation File menu, choose Raster Manager. 1
- or
2. From the MicroStation Tools menu, choose Raster > Control to open the Descartes Raster Control tool box, then select the *Raster Manager* tool. 2  
The Raster Manager dialog box opens, displaying names of any attached raster images. 2



The Raster Manager dialog list box is customizable. You can selectively disable or enable individual fields from the list box menu bar using a contextual menu (right-click).

The following fields can be displayed:

- The *Quick Info* field is used to display a short description of the raster. When the cursor is placed over this field, a tool tip brings up the description corresponding to the raster.
- The *File Name* field is used to display the file name.
- The *Description* field is used to present a description of the file.
- The *Logical Name* field is used to display the file's logical name.
- The *Read-Only* field is used to indicate if the file is in read-only mode.
- The new *On-the-Fly* only works with MicroStation GeoGraphics. We do not use MicroStation GeoGraphics here at MoDOT at this time.
- The *Geo Priority* field is used to display the method used to geographically position the image. The available choices are Attachment, Raster Header and Sister File. The image may have native

geographic metadata stored in the image itself (raster header) or in a companion file (sister file or world file). When no native methods are present, the user geographically positions the image and the metadata is stored in the design file. This method is called “attachment”.

The geographic metadata is always preserved and updated in the Attachment. When specified otherwise, the alternate location is updated as well as the attachment. Hence, the attachment is constantly updated to reflect the current geographic information of the image.

To change the Geo Priority, simply click in the Geo Priority column. This will open the Geo Priority dialog box. You can then change the selection.



Upon saving a raster file, the preferred Geo Priority for a raster attachment can be specified. When the raster file is reopened, if the raster cannot be reattached with the same Geo Priority, the raster will be displayed using a “dark yellowish” color in the Raster Manager dialog.

- The *Model* field is used to display the origin (design name and model name) of the raster reference. We do not use Models here at MoDOT at this time.
- The *Status* field displays the reference's status (Loaded, Referenced, Self-Referenced or Raster Not Found).

**To show or hide a field from the list box menu bar**

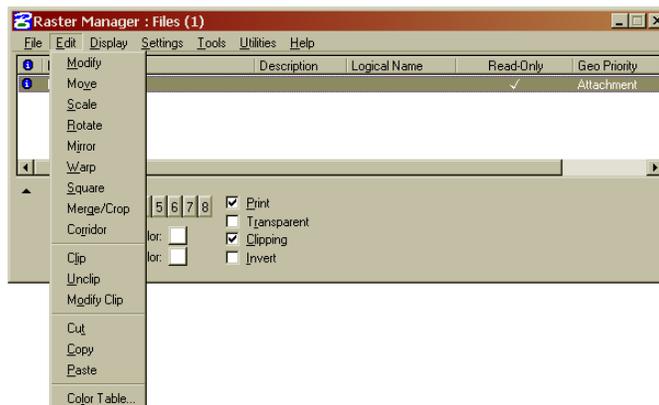
1. Open the Raster Manager dialog box.
2. Position the pointer within the list box menu bar and right-click. The contextual menu displays. Enabled fields are indicated with checkmarks.
3. Choose the menu item for the field you want to hide or show.



**2.2 Pull Down Menu Items**

**Edit menu**

The Raster Manager Edit menu gives access to features for modifying, clipping, copying and pasting images.



**Modify**

Used to modify a raster image's origin, size, rotation or affinity.

**Move**

Used to move an image to a new location.

**Scale**

Used to change the proportionate dimensions of an image.

**Rotate**

Used to rotate an image.

**Mirror**

Used to mirror the selected raster image horizontally, vertically, or diagonally. Additionally, you can specify the axis about which the image is mirrored.

**Warp**

Used to adjust the size and shape of a raster image with a combination of move, scale, rotate, and skew options.

**Square**

Used to rotate a raster image by squaring a horizontal, vertical, or diagonal axis.

**Merge/Crop**

Used to copy and merge or to crop one or more images contained within a defined area.

**Corridor**

Used to copy the regions of one or more images contained within a polygon of the same shape.

**Clip**

Used to clip a raster image (Clip Boundary), or to define a masked area (Clip Mask).

**Modify Clip**

Used to modify the clipping polygon for a clipped raster image.

**Unclip**

Used to remove one or more clipping polygons from a raster image.

**Cut**

Removes (cuts) the selected element(s) to the clipboard for subsequent pasting.

**Copy**

Used to copy an area from the active image to the clipboard.

## Paste



Used to paste the image area in the clipboard at a specified location in the active image.

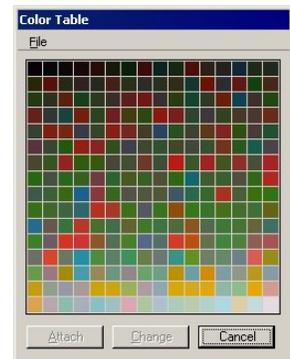
## Color Table

Used to edit the selected image's color palette. This menu item is not available if no image is selected, if more than one image is selected, or if the selected image has no color palette.

*File menu > Open* — Opens the Open Palette dialog box, which is used to load a new color table into the color tiles.

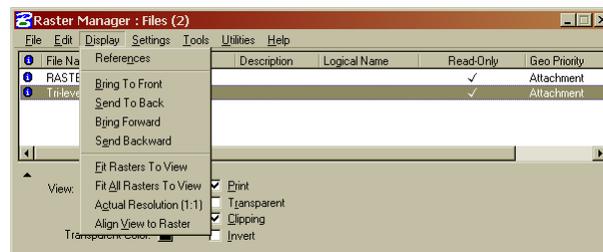
*File menu > Save As* — Opens the Save Palette dialog box, which is used to save the Color Table as a color table file.

*File menu > Revert* — Resets the Color Table to the active color table settings without closing the Color Table dialog box.



## 2.3 Display menu

The Raster Manager Display menu gives access to tools for displaying raster files.



### References

Used to open the MicroStation Reference dialog box.

### Bring to Front

Used to bring the selected raster image to the top of the other raster images.

### Send to Back

Used to send the selected raster image to the back of the other raster images.

### Bring Forward

Used to bring the selected raster image forward one raster image at a time.

### Send Back

Used to send the selected raster image back one raster image at a time.

### Fit Rasters to View

Used to fit the view to the selected raster image's boundary.

### Fit All Rasters to View

Used to fit the view to all the raster images in the design file.

## Actual Resolution

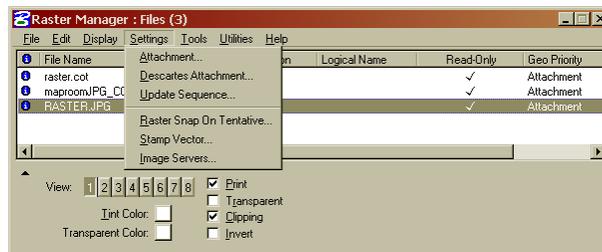
Used to view the selected raster image at a 1:1 actual resolution.

## Align View to Raster

Used to align the view to the selected raster images rotation.

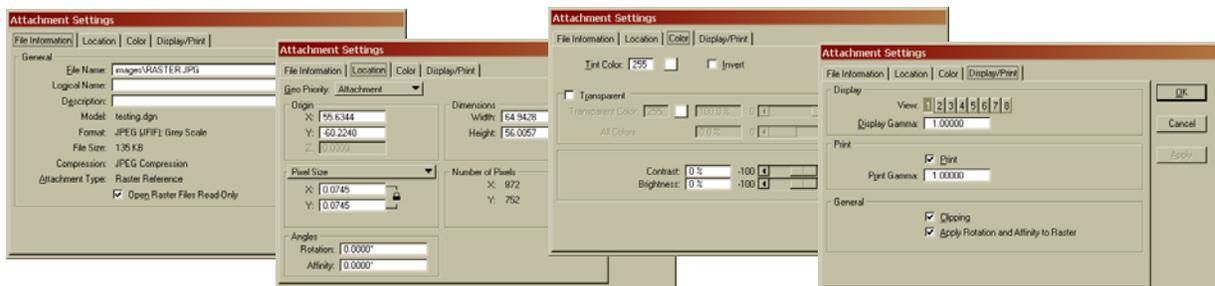
## 2.4 Settings menu

The Raster Manager Settings menu gives access to various setting boxes.



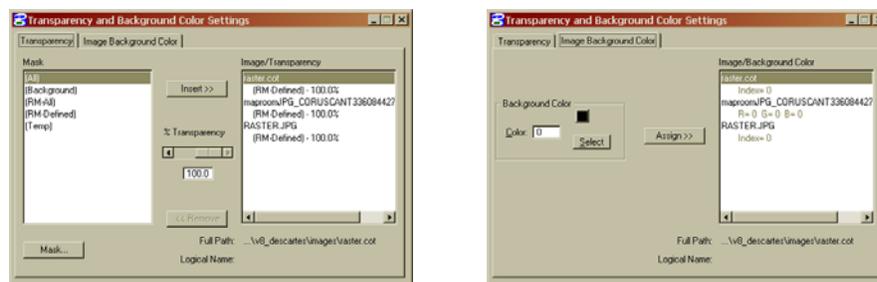
## Attachment

The attachment setting shows information about the file information, location, color, and display.



## Descartes Attachment

Shows the transparency and image background color settings.



## Update Sequence

Used to determine the order in which the raster images update.

## Raster Snap on Tentative

Used to set up the snap options to a raster image.

## Entity

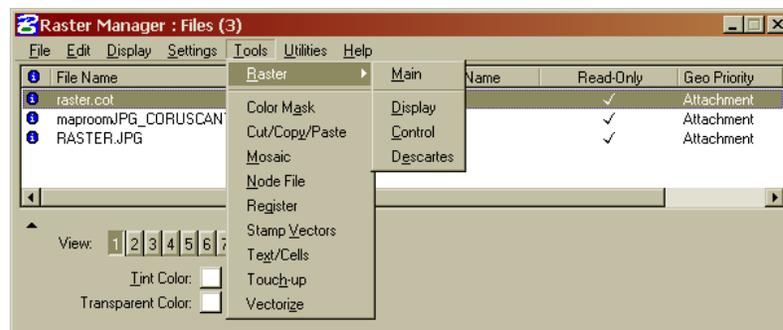
The Entity option menu lets you choose whether to snap at the center of the raster lines (Line), or on the edges of the raster objects or lines (Outline), or not to snap at all (None).

## Mask

Used to select a color mask from the open Color Mask file, to determine the raster objects or lines on which to snap.

## 2.5 Tools menu

With the Raster Manager Tools menu, you can access all Bentley Descartes tool boxes.



## Tool Boxes

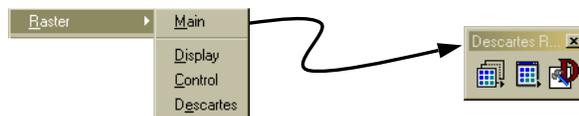
Each tool box gives access to a few tools of the same family. All tool boxes can be accessed from the Raster Manager Tools menu, where they are listed in alphabetical order.

## Tool Frame

The Image tool frame is provided with Bentley Descartes. This tool frame can be accessed through the *MicroStation>Tools>Raster>Descartes* menu. It provides access to all the Bentley Descartes tool boxes.

## Raster

Toggles the display of the main Raster tool box, which contains tools for displaying and controlling raster files.



## Raster Display



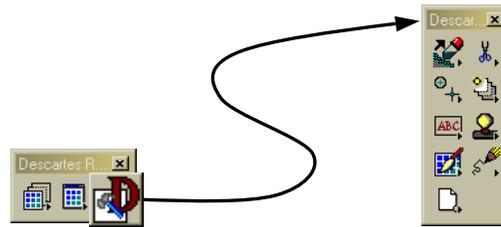
Opens the Raster Display tool bar, which contains tools for displaying raster files.

## Raster Control



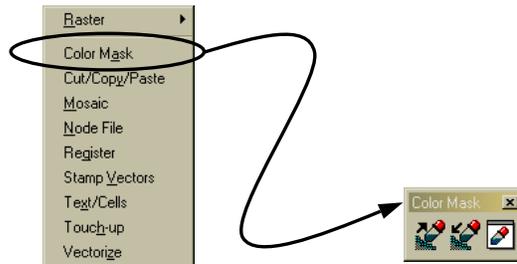
Opens the Raster Control tool box, which contains tools for controlling and manipulating raster files.

## Raster Descartes



Opens the Image Main tool box, which provides access to all other tool boxes and, consequently, to all the functionality of Bentley Descartes.

## Color Mask

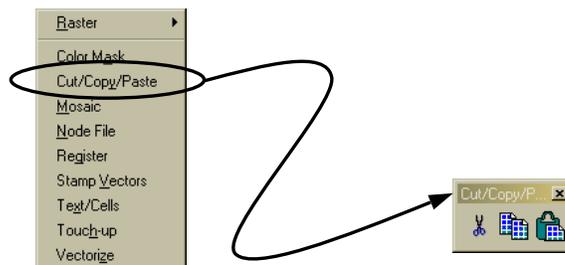


The Color Mask tool box provides tools to add colors to a mask, to subtract colors from a mask, or to open the Color Mask dialog box.

The Color Mask tool box gives access to the following tools:

- Add to Mask tool
- Subtract from Mask tool
- Color Mask Dialog tool

## Cut / Copy / Paste



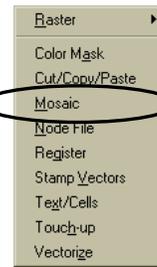
Opens the Cut / Copy / Paste tool box and gives access to the following tools:

- Cut Image Area
- Copy Image Area
- Paste Image Area

### **Mosaic**

Opens the Mosaic tool box and gives access to the following tools:

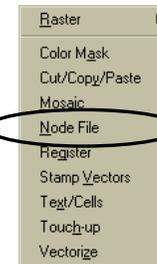
- Balance Tone
- Define Seam



### **Node File**

Opens the Node File tool box and gives access to the following tools:

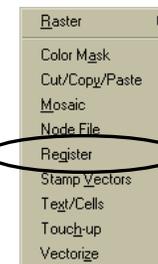
- New Node File
- Open Node File
- Save Node File
- Save Node File As



### **Register**

Opens the Register tool box and gives access to the following tools:

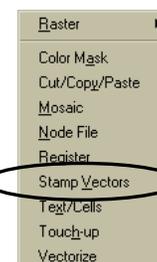
- Place Control Points
- Move Control Point
- Delete Control Points
- Register Dialog
- Resample Image
- Resampling Dialog
- Copy Vector
- Move Vector



### **Stamp Vector**

Opens the Stamp Vector tool box and gives access to the following tools:

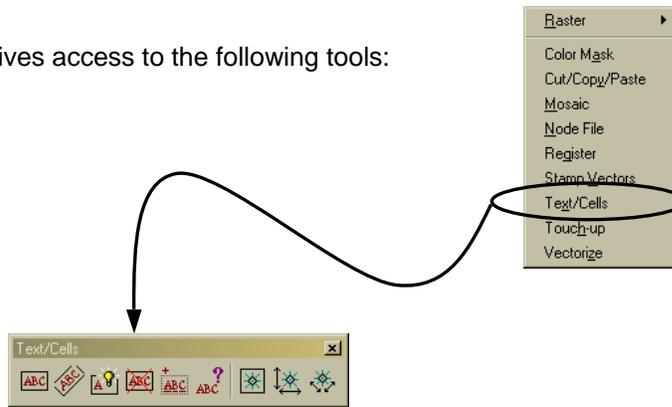
- Stamp Vector
- Match Stamp Vector Settings
- Stamp Vector Settings



## Text / Cells

Opens the Text / Cells tool box and gives access to the following tools:

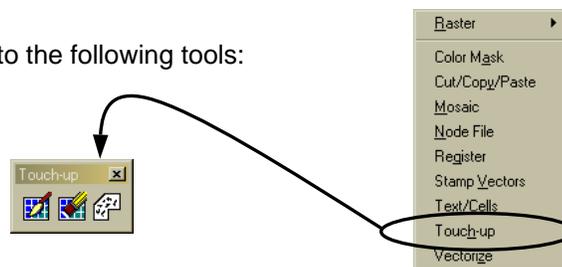
- Select Horizontal Text
- Select Oriented Text
- Select Multiple Text
- Delete Text Selection
- Convert Text
- Text Settings
- Convert Cell
- Convert Horizontal Cell
- Convert Oriented Cell



## Touch-up

Opens the Touch-up tool box and gives access to the following tools:

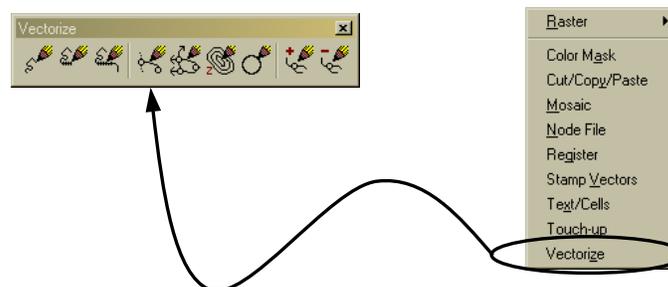
- Paint
- Erase
- Cleanup



## Vectorize

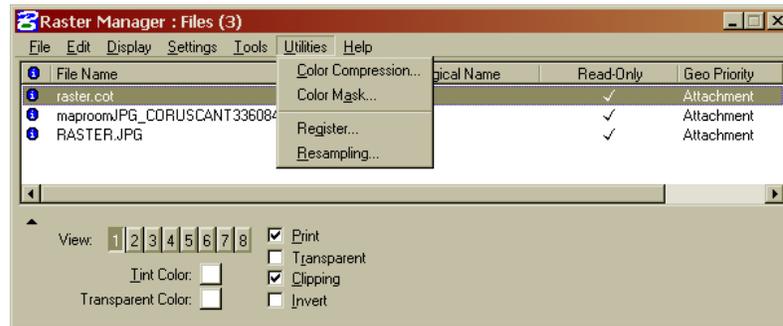
Opens the Vectorize tool box and gives access to the following tools:

- Place Element
- Continue Element
- Insert Element
- Convert Lines
- Convert All Connected Lines
- Convert Contour Lines
- Convert Circle
- Place Nodes
- Delete Nodes



## 2.6 Utilities menu

The Raster Manager Utilities menu gives access to various dialog boxes for enhancing or registering images, creating color composites, and for rasterizing images.



### **Color Compression**

Used to open the Color Compression dialog box.

### **Color Mask**

Use to create and manage Color Masks. A mask can be assigned to any image regardless of the pixel type (except for binary images). When adding colors to a mask, it is possible to select the area on any image currently open in Raster Manager.

### **Register**

Used to open the Register dialog box.

### **Resampling**

Used to open the Resampling dialog box in order to apply a geometric correction model to an uncorrected image.