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Visual Image Overview

Visual Image is an bitmap manipulation and composition product.   Bitmaps can be manipulated independently, or multiple bitmaps can be composited together. Visual Image can create and manipulate images of any size: the only limitation is the amount of memory resources your system has.

Visual Image allows you to load or create many different images, and manipulate those images either separately, in the Image Mode or together in the Object Mode to create a "collage".

The Visual Image Interface

The Visual Image interface is designed to facilitate the management of multiple image resources.

The Menu Bar

The Menu Bar displays the commands available in Visual Image.   Almost all of these commands are also accessed using the buttons on the Command Bar.

The Command Bar

The line of icons running across the top of the Visual Image window is called the Command Bar.   To execute any action in the software, select the desired button on the Command Bar.   The Command Bar can be broken down into four areas:

*   The **Mode** button on the far left side of the Command Bar determines whether you are working in Image Mode or Object Mode.   The position of this button determines which set of commands is displayed on the Command Bar immediately to the right of the Mode

 button.

*   The **Object** or **Image** buttons on the Command Bar (what is displayed depends on the position of the Mode button) comprise the functionality of Visual Image. These are the command buttons for the manipulation of images and the creation of scenes. Sometimes when you select one of these buttons, a series of subcommands appear to the left of the viewport.

*   The **Zoom** buttons control the viewport display.   The viewport displays images at their actual size (in pixels) by default.   You can zoom in or out to facilitate your work.

*   The **Undo** buttons are used to undo command operations. Visual Image supports multiple levels of undo.

The Resource List

All images loaded into Visual Image are displayed as "thumbnails" in a Resource List on the left side of the interface.   Images that are outlined in white are part of a scene.   An image that is outlined in yellow is the current image.   The current image is also displayed on the Current Resource Well.

The Current Resource Well

The Current Resource Well displays the image that is currently being manipulated.   If you are working in Image Mode, this is the image that is displayed in the viewport.   If you are in Object Mode, this image is the "current" object in the scene.

The Viewport

The Viewport either displays the current project, or a single image, depending on the position of the Mode button.

If   you are in Object Mode, the viewport displays the background image and any objects that have been composited on that background.

If you are in Image Mode, the viewport displays only the current image.   Any scene that was created continues to exist and will reappear when you change back to Object Mode.

The viewport display can be scrolled using the scroller bars below and to the right of the viewport.   It can also be zoomed using the Zoom buttons on the Command bar.

The Image Mode vs the Object Mode

Visual Image operates in two distinct "modes": the Image Mode, in which a single image is being displayed and manipulated in the viewport, and the Object Mode, in which you are overlaying one or more images as objects over a background to create a scene.

The Mode 🖼 button on the far left side of the Command Bar is used to toggle between the Image and Object modes.   Each of these modes has its own set of commands, displayed on the Command Bar.   Visual Image displays the commands of the Image mode by default.

When you change from the Object Mode to the Image Mode, the scene in the viewport is replaced by a single image: the image that appears is the object that was "current" at the time you changed to the Image Mode.   The scene continues to exist, will reappear in the viewport when you change back to the Object Mode.

Working in the Image Mode

When the Mode ![icon] button is disabled, you are working in the Image Mode and the Command Bar displays a set of buttons related to image manipulation.

These commands are described in detail in the Image Mode Commands section of this manual.

When you are working in the Image Mode, only one image is displayed in the viewport at a time.   Whenever you load or create an image in this mode, that image is displayed in the viewport, replacing any image that was displayed there previously.   This is the "current" image: the image that you are currently manipulating.

The Resource List displays all of the images that exist in the current project.   To make an image "current" for manipulation, point to the desired image in the Resource List and select.   The image that you select is loaded into the viewport.   It is also displayed in the Current Image Well above the Resource List, indicating that it is the "current" image.

Working in the Object Mode

When the Mode button is enabled, you are working in the Image Mode and the Command Bar displays a set of buttons related to image manipulation.

When you are working in the Object Mode, the viewport is used to create **scenes**.   A scene is a "collage" of one or more objects over a background.

A   **background** is an image that is used as the "canvas" on which you perform your work.   Any image can be used as a background.   Images are loaded, created or assigned as backgrounds using the options available when the button is selected on the Command Bar.

An **object** is an image that is displayed on top of a background to create a scene. Usually the object is displayed on top of the background such that solid black colors or alpha channel mattes are "dropped out": this way only the area of interest of the image is displayed.

A scene can contain any number of objects, but the object manipulation commands will only affect the "current" object. To make an object the "current" object for manipulation, position the pointer over the desired object in the viewport such that a rectangular bounding box appears around that object, then select with the left mouse button.   That object is now the current object: it is highlighted in yellow in the Resource List, and it is displayed in the Current Resource Well.

Another way to choose the "current" object is to point to the desired image in the Resource List and select: if this image is already an object in the scene, it will become the "current" object.

Assigning a Background

The first step in creating a scene is assigning a background image. If no background image exists and you select the ![button] button in the Object Mode to load a bitmap image, that image will be assigned as the background in the scene.

If an image is loaded into the viewport in the Image Mode, and no scene has yet been created in the Object Mode, when you enable the Mode button to change to the Object Mode you will be asked if you wish to use the current image as the scene background.

If you wish to select an image from the Resource List as the background in a scene, select the ![button] button from the Command Bar and use the command options displayed to the left of the viewport.

Adding an Object to a Scene

Objects can be added to a scene by loading them from disk, or by selection from the Resource List.

If a background image exists, loading a bitmap image using the button in the Object Mode will automatically add the image as an object in a scene.   Similarly, pointing to an image in the Resource List and selecting on it adds it to the scene as an object.

Objects are automatically added to a scene such that any solid black color is "dropped out", or set completely transparent.   To change this, select the button on the Command Bar to modify the transparency options.

Working with Multiple Objects

Each object exists on a separate "layer" on top of the background.   Whenever you select an object it is pulled to the "front": it is overlaid on top of other objects that share the same space.

Objects can be layered in any order.   Selecting an object as the "current" object form manipulation pulls an object to the front.   The   button on the Command Bar displays an option that allows you to move the current object to the back, behind any other objects in the scene.

To make an object the "current" object for manipulation, position the pointer over the desired object in the viewport such that a rectangular bounding box appears around that object, then select with the left mouse button.   That object is now the current object: it is highlighted in yellow in the Resource List, and it is displayed in the Current Resource Well.

Another way to choose the "current" object is to point to the desired image in the resource List and select: if this image is already an object in the scene, it will become the "current" object.

Moving Objects

Objects can be moved independently over the background image.   To move an object, simply point to that object in the viewport, hold down the left mouse button, and drag the pointer to move the object.   As soon as you release the mouse button the object is set down at its new location

Panning and Zooming the Viewport Display

The viewport displays all images at full size by default.   As you increase the size of the viewport by expanding the Visual Image window you can see a larger area.   The maximum area that you can see at one time depends on the resolution at which you have configured your video display.

Scroller bars below and to the right of the viewport allow you to scroll the viewport "window" to view other parts of an image.

You can also use the Zoom buttons on the Command Bar to enlarge or reduce the display of the image in the viewport.

*   Press this button to zoom in the viewport display.   Each time you press this button the display will zoom in more closely.

*   Press this button to zoom out the viewport display.   When you press this button the display is zoomed out such that the entire image in the viewport is visible.

 Press this button to reset the viewport to its normal display.

Undoing Your Work

Visual Image supports multiple levels of undo, so that you can undo a series of previously executed commands in reverse order.

Undo levels are saved as long you are working with a given image or object.   As soon as you choose another image or object to manipulate, the undo queue is cleared.

There area actually two buttons that allow you to undo your work.
Press this button to undo the most recently executed operation on an object or image. Each time you press this button you are undoing the next most recently executed operation.
Press this button to undo all of the of the operations that you have performed on an object or image sine the last time you selected this object or image as "current".

Loading and Saving Images and Projects

Visual Image supports the input and output of bitmap files in the TGA, BMP, TIF, GIF and PCX formats. In addition, Visual Image loads and saves PRJ files. A PRJ file is the Visual Image project file format.

The way a file is loaded or saved depends on whether you are in the Image Mode or the Object Mode.

Loading Files

When you select the button in the Image Mode, you are loading images or projects. If you select a bitmap file, it is added as a resource and displayed in the viewport. However, it is not added to the scene you may be creating in the Object Mode.

When you select the button in the Object Mode, you are loading objects or projects. If you select a bitmap file, it is added as an object in the scene, and assigned as the current object.

Whenever you load a PRJ file, whether in the Image Mode or Object Mode, you are loading a complete project, including any backgrounds, objects and images that made up that project at the time it was last saved. If a project already exists, you are prompted to delete or incorporate any existing backgrounds and objects.

Saving Files

When you select the button in the Image Mode, you are saving images or projects. If you save a bitmap file, you are saving the image that is currently displayed in the viewport.

When you select the button in the Object Mode, you are saving objects or projects. If you save a bitmap file, you are saving the "current" object in the scene.

Whenever you save a PRJ file, whether in the Image Mode or Object Mode, you are saving a complete project, including any backgrounds, objects and images that make up that project. All entities remain independent in a PRJ file so that scenes can continue to be manipulated with multiple objects.

To save a scene as a normal "flat" image file, use the command options that appear when you select the button in the Object Mode.

Managing Project Backgrounds

Select this button from the Command Bar in the Object Mode to display a list of commands used to create or load images to be used as project backgrounds, and to save a project as an image:

Generate a Color Background

Add a Background from the Resource List

Add a Background from Disk

Add a Background from the Clipboard

Save a Project as an Image Resource

Save a Project to Disk as an Image

A **project background** can be thought of as the canvas over which objects are composited. You can load a bitmap image as a project background, or you can generate a solid color to use as the background.   A background is always rectangular in shape, and the area of the background determines the area of   the "canvas" over which you can composite objects. When you add a new background into an existing project, it replaces the background that existed there previously, without affecting the objects that may already exist.   However, changing the background size for an existing project does affect the position of objects:

*   If the new background is smaller than the original background, area of the canvas is reduced, and any objects that are positioned beyond the area of the new background will no longer be visible.   They must be selected from the Resource List and moved until they appear on the new canvas.

*   If the new background is larger than the original background, the area of the canvas is increased, and objects will be placed on the new canvas beginning at the lower-left corner.

Generate a Color Background

Create a solid color background.   When you select this command, a menu appears on which you can determine the resolution and color of the background.

The **Width** and **Height** type-ins allow you to enter the horizontal and vertical resolution of the background.   Select in the Color box to display a Color Palette from which you can choose the desired background color.

Press **OK** to complete the command and generate an image in the selected color and resolution.   Press **Cancel** to exit this window.

Add a Background from the Resource List

Load an image from the Resource List as a background.   Select this button, then point to an image on the Resource List and select it to add it as the background in the current project.

Add a Background from Disk

Load an image from disk and add it as the background for the current project. When you select this button the File Browser is displayed, and you can use this to load the desired image from disk file.

Add a Background from the Clipboard

Load the image in the Windows clipboard as the background in the current project. As soon as you select this button, the image in the clipboard is added as the project background.

Save a Project as an Image Resource

Make a copy of the project as it currently appears in the viewport and save it as an image resource.   When you select this button a new image resource is created and displayed in the resource list.   This is a "flat" image: the background and objects that made up the project are "pasted" together as a normal image.   However, the project in the viewport remains unchanged.

▦ Save a Project to Disk as an Image

Save the project as it currently appears in the viewport to disk file as an image.   When you select this button, a File Browser appears, from which you can select the disk, directory and file type for the image.

Use this command when you wish to save the project in the viewport as a "final" image. The image that is saved here includes the project background and all the objects pasted down together, so this image requires less space on disk than the project itself, with all of its independent components.

This command does not replace the 🖫 button on the Command Bar.   The 🖫 button saves the project to disk as a project (PRJ) file, such that the background and all the objects remain independent.   Project files require more disk space, but preserve the "object-oriented" characteristics of the project.

📁 Creating New Objects

Select this button from the Command Bar to display a list of commands for the creation of objects.   New objects can be created by cutting them out or grabbing them from the viewport display:

▫ Cut Out a New Object Using a Rectangle

▫ Cut Out a New Object Using a Polygon

▫ Cut Out a New Object Using a Spline

✎ Cut Out a New Object by Color with a Magic Wand

▢ Cut Out a New Object with a Lasso

▣ Copy an Existing Object

When you create a new object, it is displayed as a resource in the Resource List.   In addition, the object is added to the current project in the viewport, and it selected as the current object for manipulation.   The current object is always displayed in the Current Object Well above the Resource List, and it is surrounded with a rectangle in the viewport. If you define a non-rectangular object, that object actually exists as a rectangle with black background.   Visual Image automatically drops out , or suppresses the display of this black background color.   The drop-out color can be manipulated manually using the ▣ command on the Edit Object
▣ menu.

Cut Out a New Object Using a Rectangle

Cut out a rectangular area of the viewport as an object.   Select this command to enable it, then position the pointer in the viewport and drag it to define a rectangle.   As soon as you release the mouse button a new object is created using the information within the area of the rectangle you defined.   The original area from which the object is grabbed is left unchanged.

Cut Out a New Object Using a Polygon

Cut out a multi-sided shape from the viewport.   This command allows you define an object by drawing a series of straight lines that are joined to one another, until they define an enclosed area.

Select this command to enable it, then position the pointer in the viewport and select to define the first point of the first segment of the polygon.   Now as you move the pointer a line is drawn between the first point and the current pointer position.   Select again to select the second point: this point defines the end point of the first polygon segment and the first point of the next segment.   Continue selecting points in this fashion to outline the desired area.

When you are done defining the desired area of the viewport, select the right mouse button to complete the command.   A polygon segment is drawn between the first point you defined and the last point you defined to create a closed polygon, and a new object is created using the information within the area you defined.   The original area from which the object is grabbed is left unchanged.

⬛ Cut Out a New Object Using a Spline

Cut out a   multi-sided shape from the viewport.   Unlike the ⬛ command, which defines straight lines between points, this command allows you define an object by drawing a series of curved lines that define an enclosed area.

Select this command to enable it, then position the pointer in the viewport and select to define the first point of the first segment of the spline curve.   Now as you move the pointer a line is drawn between the first point and the current pointer position.   Select again to select the second point: now as you move the pointer a curved line is drawn, beginning at the first point, passing through the second point, and ending at the current pointer position. Select again to define a third point, and move the pointer to define the shape of the curve that passes from the second point, through the third point to the current pointer position. Continue selecting points in this fashion to outline the desired area.

When you are done defining the desired area of the viewport, select the right mouse button to complete the command.   A spline segment is drawn between the first point you defined and the last point you defined to create a closed spline shape, and a new object is created using the information within the area you defined.   The original area from which the object is grabbed is left unchanged.

✎ Cut Out a New Object by Color with a Magic Wand

Cut out a new object from the viewport based on a group of contiguous colors.   This command is very useful for grabbing objects that would be difficult to outline.   As long as the colors that make up the object you want to cut out are somewhat different from the colors immediately surrounding that object, this command can yield very accurate results.

When you select this command, a Fill window is displayed.   Use this window to define the colors from which you wish to grab.   This window allows you to see the new object as you are defining it, and to control the tolerance at which colors area picked.

Drag the pointer in the viewport to select color samples from the area that you wish to grab.   As you drag the pointer the number of samples that you have chosen is displayed in the Fill window.   All contiguous (touching) pixels containing the color values that you have sampled will be included in the new object.

When you release the mouse button, the small viewport in the Fill window displays the object as it is currently defined.   Now you can refer to the image in this small viewport to fine-tune your selections:

* Drag the pointer in the viewport again to add more color samples to the current definition;

* Increase or decrease the **Tolerance** value to add or reduce the number of colors in the sample.   When tolerance is set to 1, only the specific color values that you sample will be included in the definition; as you raise this number colors close to but not exactly the same as the sampled values are included in the definition as well.   After changing the Tolerance value, select the Grab button to redraw the object in the viewport according to the new Tolerance value.

* Select the **Reset** button to discard the samples that you have chosen and begin defining a new set of color samples.

After you select color samples and release the mouse button, or after you select the **Grab** button, Visual Image calculates the new object based on the color samples and the **Tolerance** value.   If   there are too many color samples, or if the Tolerance is set too high, this command may attempt to grab an image beyond the area that you desire, and this may make the calculation of the new image lengthy.   If you wish to cancel the calculation of the grabbed area, press the **Abort** button that appears in place of the Grab button.

When you are done defining the object, press **OK** to complete the command and create the new object, or press **Cancel** to cancel the command.

▱ Cut Out a New Object with a Lasso

Cut out an object by drawing a freehand spline around it.   Select this command, then drag the pointer in the viewport to trace around the desired area.   As you drag the pointer you are defining a spline path.   When you release the mouse button a line is drawn between the first point and the last point in the spline to define a closed area, and a new object is created using the information within the area you defined.   The original area from which the object is grabbed is left unchanged.

Copy an Existing Object

Copy the current object.   The current object is displayed on the Current Object Well above the Resource List.

As soon as you select this command a copy of the current object is created.   The copy floats in the viewport at the current pointer position until you click the mouse button to place the copy at the desired location.

📂 Loading Objects and Projects

Select this button from the Command Bar to load existing project files from disk, and to load images to use as objects or project backgrounds.   When you select this button a File Browser appears.   The file types displayed by default are PRJ (project files), BMP, TGA, TIF and   GIF.

When you load a **PRJ** file, you are loading a new project, including the background image and any objects and images associated with it.   If a project currently exists in the viewport when you select this command, you are asked if you wish to delete the existing background.   If you select Yes, the background from the incoming project file replaces the existing background.   If you select no, the existing background is used.   You are also asked if you wish to delete all current objects.   If you select Yes, the incoming project completely replaces the existing project.   If you select No, the objects from the current project are incorporated into the new project.

Note: projects can also be loaded from the Image Manipulation Mode.

When you load a **BMP**, **TGA TIF** or **GIF** file, one of two things will happen:

*   If a background image exists in the current project, the incoming bitmap is added as an object in the viewport.   Once loaded, it can be repositioned over the background image or otherwise manipulated as an object.

*   If no background image exists, the incoming bitmap is added as the project background.

Note: To load a new background image for an existing project, use the Load Background
🔲 button from the <u>Background Management</u>
🔳 commands.

📂 Saving Objects and Projects

Select this button from the Command Bar to save the current project or the current object to disk.

When you select this button a File Browser appears.   The file types you can save are PRJ (project files), BMP, TGA, TIF and   GIF.   You must specify a filename extension when saving a file here.

If you save a **PRJ** file, all of the images in the project are saved to a single file on disk. This file saves all the elements of the scenes independently: the background image and the objects overlaid on top of the background can continue to be manipulated as separate entities when the project is reloaded.

Note: A PRJ file can only be read by Visual Image.   To save a scene as a bitmap image that can be read by other software programs, use the 🖼 button under the Background Management

🖼 commands to save the project to file as an image.

If you save a **TGA**, **BMP**, **TIF** or **GIF** file, only the current object is being saved.   The current object is surrounded with a rectangle in the viewport, and displayed in the Current Object Well above the Resource List.

Note: Objects can also be saved in the Image Manipulation Mode.

▤ Managing Objects

Select this button from the Command Bar to display a list of commands for the management of objects in the Resource List.   Objects can be removed from the viewport or completely deleted from the project.   They can be joined to one another or to the background image, and they can be printed independently.

▣ Remove an Object from the Viewport

▣ Delete an Object from the Project

▣ Join Two Objects Together

▣ Paste an Object to the Background Image

▣ Remove all Objects from the Project

▣ Print an Object

Remove an Object from the Viewport

Press this button to remove an object from the scene in the viewport. After pressing this button, point to an object on the Resource List and select to remove that object from the viewport.

The object still exists in the project, and is displayed in the Resource List.   However, it is no longer a part of the scene being created in the viewport.

Delete an Object from the Project

Press this button to delete an object from the current project.   After pressing this button, point to an object on the Resource List and select to remove that object from the project. The image continues to exist on disk, however it is no longer associated with the current project.

▨ Join Two Objects Together

Join two objects in the viewport together such that they become a single object.   When you press this button, a Join window is displayed.

The "postage stamp" window on the right displays the current object.   Point to an object in the Resource List to join to this object and select: this object will now appear in the "postage stamp" window on the left.   Now press **Join** to execute the command, or press **Cancel** to exit this window without joining the objects.

Note that once you join two objects, they are permanently connected in the project.

Paste an Object to the Background Image

Paste the current object down onto the background image at its current location.   When you paste an object, it becomes part of the background image, and   ceases to act as an independent entity in the project.

When you select this command you are asked to confirm that you wish to paste the current object down onto the background image.

Remove all Objects from the Project

Remove all objects from the current project.   When you execute this command, all images that are includes as objects in the scene are deleted from the project.   These images are not only removed from the scene in the viewport, but also from the Resource List.

Print an Object

Print the current object using the Windows Print Manager.   When you select this command, you are prompted to select how you wish the image to be formatted on the page.

Stretch to Page scales the object up or down to cover the entire area of the page that you are printing.

Best Fit prints the object without scaling it, and will rotate the image, if necessary, to fit it onto the page.   If your object size is 1200 pixels horizontally (X resolution), and you are printing on a 300 dpi printer, it will print out to a size of 4 inches across (1200/300=4).

Scale allows you to select a specific X and Y Scale at which the object should be printed. A value of 1 indicates no change of scale.   Values below and above 1 will reduce or increase the size of the printed image.

🎸 Editing Objects

Select this button on the Command Bar to display a list of commands for the manipulation and editing of objects.   Objects can be resized, cut, cropped, rotated, flipped and warped.   Image textures can be mapped onto the object, and alpha channel mattes can be created to define areas of the object to make invisible.

Resize an Object

Cut an Object

Crop an Object

Rotate an Object

Flip an Object

Map a Texture onto an Object

Edit an Object's Alpha Channel Matte

Warp an Object

If after executing one of these commands you don't like the results, select the 🔱 button on the Command Bar (or the **Edit, Undo** command on the Menu Bar) to undo the operation and begin fresh.

Resize an Object

Resize an object in terms of the number of horizontal and vertical pixels.   The horizontal and vertical dimensions can be resized independently, therefore this command can change the aspect ratio (the height to width ratio) of the image as it resizes it.

When you select this command a Resize window is displayed.   The **Width** and **Height** type-ins display the current size of the object in pixels.   Type in the desired new size for the object and press **OK** to execute the command, and press **Cancel** to exit this window.

Select the **Fast** option to resize the object more quickly, but at a lower quality.

Note that an object can also be resized visually in the viewport.   Select the button, then point to an edge or corner of the bounding box that surrounds the current object in the viewport and drag the mouse to expand the bounding box.   When you release the mouse button the object will be resized to fill the bounding box.   If you drag a corner of the bounding box, you are resizing the object simultaneously in the vertical and horizontal directions.   If you select on an edge of the bounding box, you are resizing the object in one direction only.

✂ Cut an Object

Cut the current object.   When you select this command a Cut window is displayed.   The Cut window displays a variety of "cut brush" shapes and sizes: the current selection is displayed in the box on the left side of the window.   To select a different brush, simply point to the desired brush in the window and select.

When the **Cut** button in this window is pressed, you can drag the pointer over the current object in the viewport to cut that object.   When the **Erase** button is pressed, you can drag the pointer in the viewport to uncut any parts of the objects that you cut previously during the current execution of this command.   Press **Cancel** to exit the Cut window.

If the current object is set to drop out an alpha channel matte (this option is enabled by selecting the Dropout Alpha option in the Object Options 🔘 command), an Alpha % spin box appears on the Cut window and Cut command is used to increase or decrease the alpha channel dropout.   When Alpha % is set to 100, then the areas of the current object that are "cut" will appear completely transparent.   When Alpha % is set to 0, the areas of the object that are cut are completely opaque.   Values between 0 and 100 result in varying degrees of object transparency.

Note: if you cut an object that has been set to **Blend Edges** (a selection in the 🔘 command), the new edges defined by cutting won't be blended until the object is redrawn.   Simply move the object to redraw and regenerate the edge blend.

✄ Crop an Object

Crop the current object in the viewport.   Select this command, then drag the pointer in the viewport to draw a bounding box that defines the area of the object to crop.   When you release the mouse button the object is cropped to fit within the bounds of the bounding box that you defined.

Rotate an Object

Rotate the current object.   When you select this button a Rotate window is displayed.

An object can be rotated on any or all of its 3 axes.   The **X Axis** runs horizontally through the center of the object, the **Y Axis** runs vertically through the center of the object, and the **Z Axis** runs perpendicular through the center of the object.

Rotate the object along its axis by changing   the values in the X Axis, Y Axis and Z Axis spin boxes.   As you change these values, the bounding box around the object changes accordingly.   After setting the desired rotation values, press **OK** to redraw the object at its new rotation, or press **Reset** to reset the rotation values at 0.   Press **Cancel** to exit the Rotate window.

In addition, you can also rotate the object along its Z Axis (roll it) visually in the viewport. After selecting this button, drag the pointer in the viewport and the bounding box around the current object will spin accordingly.

Notice that there are also **Width** and **Height** spin boxes in the Rotate window.   These are used to rescale the object along its original horizontal and vertical axes as it is rotated.

Flip an Object

Flip the current object around its horizontal or vertical axis to produce a mirror image of that object.   When you select this button a Flip window is displayed.

Select the **Over** button to flip the object around its horizontal axis.   Select the **Mirror** button to flip the object around its vertical axis.   Select the **Cancel** button to close this window.

Map a Texture onto an Object

Use this command to map a texture onto the current object.   This command allows you to apply an image over the object in a simulated three-dimensional perspective such that it appears to reduce in size as it moves toward a vanishing point "in the distance".   For example, if you have a picture of a home, you can outline the driveway as a new object and map a texture onto it so that the perspective of the texture matches the perspective of the driveway in the picture.

The first step is to select an image to use as a texture map.   You can choose an image that exists in the current project, or you can load an image directly from disk.   To assign an image that is already in the current project, select on the "postage stamp" window in the Texture area of the Texture Object window, then point to the desired image on the Resource List and select: that image will now be displayed in the "postage stamp" window.   To select an image from disk, select in the File type-in box, and a File Browser will appear.   Load the desired image, and it will be displayed in the "postage stamp" window.

After selecting an image to use as a texture map, use the Orientation options to determine the perspective of the texture map and the area over which it will be mapped. Use the Texture options to determine the scale, rotation and offset of the texture map itself.   Two bounding boxes appear over the current object in the viewport: one representing the Orientation options and one representing the Texture options.

The **X Axis**, **Y Axis** and **Z Axis** spin boxes are used to assign the "perspective" at which the texture will be mapped onto the object.   As you change these values, the Orientation bounding box changes to display the new perspective.   For example, as you change the X Axis value, the bounding box will tilt along a horizontal axis, and when the image texture is mapped onto the object it will appear to be titled at that angle.

The **Width** and **Height** spin boxes are used to determine the area over which the image texture is mapped onto the object.   The image texture is mapped only onto those portions of the object that are enclosed in the Orientation bounding box, so you may need to increase the size of this box after changing the X, Y or Z Axis values.   Note that this controls only the area over which the texture is applied: it does not affect the scale at which the texture is applied.

Use the **Scale** spin box to control the scale at which the texture is applied to the object. As you change this value the Texture bounding box updates accordingly to show the scale of the image texture in relation to the object.   The default scale of 1 is such that the entire image texture will map once over the area of the object.   If you set a smaller scale (and this is mode often the case) the image is repeated as it is mapped over the area of the object enclosed in the Orientation bounding box.   As you change this value the Texture bounding box scales accordingly.

Use the **Rotate** spin box to determine the direction at which the image texture is mapped onto the object.   This allows you to rotate the texture before applying it.   As you change this value, the Texture bounding box rotates accordingly.

Use the **X Offset** and **Y Offset** spin boxes to determine the point at which the image texture begins mapping onto the object.   If the Texture scale is large in relation to the object, this allows you to determine which portion of the image texture is mapped onto the object.   If the Texture Scale is small in relation to the object, this allows you to determine the point on the object where the image texture is repeated.   As you change these values, the Texture bounding box moves accordingly.

The **Flip** option determines how the image texture is repeated as it is mapped over the object.   If flip is not selected, the image texture is "tiled" as it is repeated: sometimes this results in a visible "seam" where the repeat occurs.   If the Flip option is enabled the

image texture is flipped as it is repeated: this eliminates the seam between textures, but depending on the nature of the image texture being mapped, this can produce an unwanted mirroring effect where the repeat occurs.

Use the Quality option to improve the appearance of the image texture as it is mapped onto the object.   When this option is enabled, image texture looks better as it is warped into perspective, but at the expense of system performance.

If you aren't happy with your settings and you wish to start over, press Reset to reset all the values in this window.   After defining mapping characteristics, press OK to execute the command and map the image texture over the current object.   When you are finished, press Cancel to close the Texture Object window.

Edit an Object's Alpha Channel Matte

Specify areas of the current object to drop out (make completely transparent) by defining an alpha channel matte based on the colors in the object. As soon as you select this command, the dropout characteristics for the current object (defined in the Object Options button on the Command Bar are automatically reset to **Dropout Alpha**.

When you select this button an Alpha Channel window appears, from which you can define an alpha channel matte. This window is used to decide which colors in the object get displayed, which colors don't get displayed, and what happens to the colors in-between.

The first step is to select a "**baseline**" color from which to start. Often this a color that will remain 100% opaque. To select a baseline color, simply point to a the current object in the viewport and select: the color value at the pointer position is selected, and displayed in the **Color Box** in the Alpha Channel window.

Next, modify the position of the line on the graph to specify which colors around this baseline color should be dropped out, and the degree of their transparency. The default setting on the graph shows a horizontal line across the top. This means that all of the colors are 100% opaque: nothing is being dropped out.

The display and use of the graph is described in detail below, but for most practical purposes, you can use the **Peak** and **Valley** spin boxes to define the dropout characteristics of your object without worrying about this graph.

As you increase the Peak value, more color values close to the baseline color remain opaque. As you decrease the Valley value, more colors at the opposite of the graph are set to completely transparent. As the Peak and Valley values approach one-another the rate at which color values further from the baseline color become more transparent increases. In other words, the "edge" between the visible and invisible portions of the object becomes more abrupt.

In addition to modifying the graph using the Peak and Valley spin boxes, you can also modify the curve of the graph manually, by changing the position of control points. The graph is set up as follows:

As you move from left to right on the graph, you are moving farther away from the baseline color value that you selected. Therefore, a point on the far left side of the graph represents the baseline color, and a point on the far right side of the graph represents the color value furthest from this baseline color.

As you move further up the graph the color becomes more opaque. Therefore a point at the bottom of the graph is completely transparent and a point at the top of the graph is completely opaque.

To edit control points, simply point to the desired control point in the graph, and drag the pointer to move that control point up or down. When you release the mouse button the "postage stamp" display of the object on the Alpha Channel window will update to display your changes. If you want the display to update dynamically as you drag the pointer, press the 🖨 button to "**lock**" the link between the graph and the display.
The Number of Control Points spin box changes the number of control points in the graph. Sometimes it is easiest to reduce the number of control points so that you can quickly define the general nature of your curve, then increase the number of control points to fine-tune that curve.
Select the 3 Channels option to edit the red, green and blue color channels of the image independently. When you select this option the graph displays a separate curve for each color (if you see less than 3 curves, that means that two or more of the color channels share the same value in the baseline color) and three additional buttons appear in the window: 🔴,

🟩 and

🔵 to control the red, green and blue curves on the graph.   Press one or more of these buttons to activate that color channel's curve on the graph, then edit the control points to change the curve.   When you select the 3 Channel Mode, the Peak value defaults to 100 and the valley value defaults to 0, so that only the exact color values that make up the baseline color are 100% opaque.   As you increase the Peak value, color values on both sides of the baseline color value become more opaque.   Similarly, decreasing the Valley value affects color values above and below the most transparent color value.

Select the **Dropout Black** option to dropout solid black colors in the object in addition to dropping out the alpha channel matte.

Use the **Load** and **Save** buttons to load and save graph settings to and from disk.   This way you can duplicate your settings over multiple objects.

If you don't like your graph settings and wish to start over, press the **Reset** button. After setting the alpha channel matte to your liking, press **OK** to execute the changes over the object in the viewport.   Press **Cancel** to exit the Alpha Channel window.

🟨 Warp an Object

Change the appearance of an object by skewing or warping it.   When you select this command a Warp window is displayed.   Use this window to determine how to warp the object, then move the pointer into the viewport and drag the bounding box around the object to define the nature of the warp.

When **Move Corner** is selected, point to a corner of the bounding box that surrounds the current object in the viewport and drag the pointer   to move that corner.   When **Skew Left/Right** is selected, point to the top or bottom edge of the bounding box and drag the pointer to skew the box horizontally.   When **Skew Up/Down** is selected, point to the left or right edge of the bounding box and drag the pointer to skew the box vertically.

If you aren't happy with the bounding box as you have changed it, select **Undo** to reset it to its default shape.   After changing the shape of the bounding box press **OK** in the Warp window to execute the command and redraw the object in its new shape.   When you are finished, press **Cancel** to close the Warp window.

🔵 Recoloring Objects

Select this button on the Command Bar to   display a set of commands to recolor the object.   Each of these commands uses a different method to modify the appearance of the current object.

▦ Change the Brightness of an Object

▦ Change the Hue of an Object

▦ Change the Saturation of an Object

▦ Change an Object into a Gray Scale Image

◐ Invert the Colors of an Object

▦ Change the Contrast of an Object

🔵 Recolor an Object

▦ Emboss an Object

When you select one of the Color Object commands, a window appears that allows you to define the nature of the operation and execute that operation.   If after executing one of these commands you don't like the results, select the 🦋 button on the Command Bar (or the Edit, Undo command on the Menu Bar) to undo the operation and begin fresh.

Change the Brightness of an Object

Adjust the brightness of an image by increasing or decreasing the color value of each pixel by a constant factor.   When you select this command a window appears from which you can change the brightness of the current object.

A value of 100 is the default value for the image.   Reducing brightness below 100 will make the image darker; raising it above 100 brightens the image.

After setting the desired value, press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object. When satisfied with your changes, press **Cancel** to close this window.

Change the Hue of an Object

Adjust the hue of an image by changing the color hue of each pixel by a constant value. When you select this command a window appears from which you can change the hue of the current object.

A value of 0 is the default value for the image.   As you increase the hue value between 0 and 360, you are selecting a new hue on a color wheel that blends from red to green to blue and back to red again.

After setting the desired value, press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object. When satisfied with your changes, press **Cancel** to close this window.

Change the Saturation of an Object

Adjust the saturation of an image by increasing or decreasing the color saturation of each pixel by a constant factor.   When you select this command a window appears from which you can change the saturation of the current object.

A value of 100 is the default value for the image.   Values above 100 increase the color saturation of the image, making it appear more vivid; values below 100 reduce saturation, making the image appear more monochromatic.

After setting the desired value, press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object. When satisfied with your changes, press **Cancel** to close this window.

Change an Object into a Gray Scale Image

Monochrome changes an image to a single color hue with variation only in saturation and value.   When you select this command a window appears from which you can change the current object into a gray scale image.

Press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object.   When satisfied with your changes, press **Cancel** to close this window.

Invert the Colors of an Object

Invert the color hue of each pixel, changing each to its complementary color.   When you select this command a window appears from which you can invert the current object.

Press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object.   When satisfied with your changes, press **Cancel** to close this window.

Change the Contrast of an Object

Make an image sharper or duller by adjusting the contrast of the object.   When you select this command a window appears from which you can change the contrast of the current object.

A contrast value of 1.0 is the default value for the image.   Reducing contrast below 1.0 will make the image brighter; raising contrast above 1.0 darkens the image.

After setting the desired contrast value, press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object.   When satisfied with your changes, press **Cancel** to close this window.

🔴 Recolor an Object

Change the hue of a set of colors in an object.   The Recolor command allows you to "swap out" one set of colors with another set of colors.   When you select this command a window appears from which you can define the colors to change on the object.

Use this window to choose a **Source Color** and a **Target Color**.   The Source Color is the color in the object that is going to be altered.   The Target Color is the color that will replace the Source Color.   The **Delta** type-in determines the number of colors that are affected by this command.   If the Delta value is set to 0, then only those pixels in the current object that have the exact same color value as the Source Color are affected; as the Delta value is increased, those colors in the object that are close to but not exactly the same as the Source Color are affected.

You can choose the desired Source and Target colors from the Color Palette, or by pointing to a color in the viewport. To select a color from the Color Palette, select on the Color box   in the Source or Target color areas of the window.   To select a color from the viewport, select the 🔺 button in the Source or Target color areas of the window.   Usually, you will select the Source Color by selecting the
🔺 button in the Source Color area of the window and picking a color directly from the current object in the viewport.

After setting the desired contrast value, press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object.   When satisfied with your changes, press **Cancel** to close this window.

Emboss an Object

Use the color value information (Intensity) to create an embossed effect from the current object.   When you select this command a window appears from which you can define the way the current object is embossed.

When you execute this command, the color values in the object are used to determine an embossed topography.   Low intensity colors represent peaks; high intensity colors represent valleys.   The topography is created by shading different parts of the objects based on a simulated light source.

The **X Offset** and **Y Offset** type-ins determine the direction and angle of the simulated light source.   An X Offset of less than 0 places the light to the left of the object; an X Offset of greater than 0 places the light to the right of the object.   A Y Offset of less than 0 places the light below the object; a Y Offset of greater than 0 places the light above the object.   As the offset values get farther from zero, the light source strikes the object at a more oblique angle, so that the shading is exaggerated.

The **Texture** type-in   determines how "bumpy" the embossed surface will be.   As the Texture value is increased, the surface appears more embossed.

The Color box is used to select the color of the embossed object.   When you select here a Color Palette is displayed, from which you can choose the desired color.

After setting the desired contrast value, press **OK**   to modify the entire object according to your changes.   Or, select a brush and "paint" your changes onto desired parts of the object.   When satisfied with your changes, press **Cancel** to close this window.

🔘 Object Dropout / Transparency

Select this command to determine how an object is displayed in the viewport.   Basically, you can use this command to determine which parts of an object are transparent or completely invisible.   When you select this command a Object Options window is displayed.

The options in this window allow you to determine how to drop out the unwanted parts of an image when it is displayed as an object in the viewport.

Use the **Show All** option to display the object without making any parts of it invisible. Because all images are treated as rectangles by the computer, selecting this option will produce a rectangular image: if the current object was loaded from a "clip art" library or "cut out" using Visual Image, the object will now appear on to of a black rectangle.

Use the **Dropout Black** option to make invisible any parts of the current object that are pure black.   As mentioned above, all computer images are rectangular in shape. However, clip-art images and objects cut out in Visual Image can be of any shape.   This is achieved by placing a "cut out" object over a black rectangular background, then using the Dropout Black option to make the black color invisible so that only the cut out area appears.   This option is the default setting for an object.   Therefore, when you import clip art, or cut out a new object in Visual Image, you see the shape that you want, and the black background is dropped out automatically.

Use the **Blend Edges** option make the edges of an object appear less sharp.   This option performs a dropout black operation as described above, and it also makes the edges of the object (where the non-black pixels meet the black pixels) somewhat transparent, creating a smoother transition at the edges.   When you select this option a **Fade Distance** spin box appears.   The value here determines how far in from the edge to make the object partially transparent.   The default value of 0 makes only the pixels at the very edge of the object partially transparent.   As you enter higher values here, the blending occurs over a larger area in from the edge, with the pixels at the edge being the most transparent, and the pixels away from the edge less transparent.

Use the **Dropout Alpha** option to dropout parts of the object based on an alpha channel matte, instead of relying on the solid black color.   After you select this option, you select the Alpha Channel Matte 🔼 command under the Edit Objects
🔼 selection on the Command Bar to edit the Alpha Channel matte.

Use the **Transparency** spin box to control the general transparency of the object.   The higher the value here, the more opaque the object appears in the viewport.

Moving Objects in the Viewport

Select this button on the Command Bar to display a set of commands to control the movement of objects in the viewport.   These commands allow you to move an object in any direction over the background image, as well as place it behind other objects.

Note the you aren't required to use this command to move objects in the viewport. Unless you are executing a specific command, any time you point to an object in the viewport and dragging the pointer the   object will move in the viewport.   These buttons allow you to move the object one pixel at a time in a particular direction, giving you highly accurate control.

Each time you select this button the current object will move up one pixel.

Each time you select this button the current object will move down one pixel.

Each time you select this button the current object will move one pixel to the left.

Each time you select this button the current object will move one pixel to the right.

In addition to moving objects in the viewport, you can also move overlapping objects in front of or behind one-another:

When you select this button, the current object is moved to the back, behind any objects that overlap it.

You can also pull objects in front of one-another simply by selecting the object that you wish to put in front.   Whenever you select an object to make it the current object in the viewport, that object is pulled to the foreground.

Generating a New Image

Select this button on the Command Bar to display a list of image creation commands.

Generate a Solid Color Background

Grab a Rectangle from the Screen

Copy an Existing Image

Whenever you create a new image with one of these commands, that image is displayed in the viewport, replacing any image that may already be displayed.

Images created here are not displayed as part of the scene in the viewport when you are working in the Object Mode.   To and an image to the scene, select the Mode button to change to the Object Mode, the select on the desired image in the Resource List to add it to the scene as an object.

Note that after you create a new image you should save that image to disk using the button on the Command Bar if you wish to use that image in subsequent work.

Generate a Solid Color Background.

Select this command to create a solid color background.   When you select this command, a menu appears on which you can determine the resolution and color of the background.

The **Width** and **Height** type-ins allow you to enter the horizontal and vertical resolution of the background.   Select in the Color box to display a Color Palette from which you can choose the desired background color.

Press **OK** to complete the command and generate an image in the selected color and resolution. This image is displayed in the viewport and on the Resource List.   Press **Cancel** to exit this window.

Grab a Rectangle from the Screen

Use this button to grab a rectangular section of your screen.   You can indicate any area on or off the Visual Image window, an perform a "screen capture" of that area.

Select this button, then drag the pointer to create a rectangular bounding box anywhere on the screen.   When you release the mouse button an image is created, copying everything that was enclosed in the bounding box.   This new image is now displayed in the viewport and in the Resource List.

Copy an Existing Image

Copy the image that is currently displayed in the viewport.   As soon as you select this command a copy of the current image is created and added to the Resource List.

📂 Loading Images and Projects

Select this button from the Command Bar to load existing project files and images from disk.

When you select this button a File Browser appears.   The file types displayed by default are PRJ (project files), BMP, TGA, TIF and   GIF.

When you load a **PRJ** file, you are loading a new project, including the background image and any objects and images associated with it.   If a project currently exists in the viewport when you select this command, you are asked if you wish to delete the existing background.   If you select Yes, the background from the incoming project file replaces the existing background.   If you select no, the existing background is used.   You are also asked if you wish to delete all current objects.   If you select Yes, the incoming project completely replaces the existing project.   If you select No, the objects from the current project are incorporated into the new project.

Note: projects can also be loaded from the Object Manipulation Mode.

When you load a **BMP**, **TGA, TIF** or **GIF** file, this image file is displayed in the viewport and added to the Resource List.

Images loaded here are not displayed as part of the scene in the viewport when you are working in the Object Mode.   To load an image to the scene, select the Mode 🖼 button to change to the Object Mode, then select on the desired image in the Resource List to add it to the scene as an object.

📂 Saving Images and Projects

Select this button from the Command Bar to save the current project or the current object to disk.

When you select this button a File Browser appears.   The file types you can save are PRJ (project files), BMP, TGA, TIF and   GIF.   You must specify a filename extension when saving a file here.

If you save a **PRJ** file, all of the images in the project are saved to a single file on disk.   This file saves all the elements of the scenes independently: the background image and the objects overlaid on top of the background can continue to be manipulated as separate entities when the project is reloaded.

Note: A PRJ file can only be read by Visual Image.   To save your scene as a bitmap image that can be read by other software programs, use the 🖼 button under the Background Management 🖼 commands to save the project to file as an image.

If you save a **TGA**, **BMP**, **TIF** or **GIF** file, only the image currently displayed in the viewport is being saved.

Managing Images

Select this button from the Command Bar to display a list of commands for the management of images in the Resource List.   Images can be copied to and from the Windows clipboard, and they can be deleted from the project.

Add an Image from the Clipboard

Save an Image to the Clipboard

Delete an Image from the Project

Delete all Images from the Project

Add an Image from the Clipboard

Load the image in the Windows clipboard into the project.   As soon as you select this button, the image in the clipboard is added to the Resource List and displayed in the viewport.

Images loaded here are not displayed as part of the scene in the viewport when you are working in the Object Mode.   To load an image to the scene, select the Mode button to change to the Object Mode, then select on the desired image in the Resource List to add it to the scene as an object.

Save an Image to the Clipboard

Save the image that is currently displayed in the viewport to the Windows clipboard.   Once loaded to the clipboard, this image can be pasted into other applications that accept bitmaps from the Windows clipboard.

Delete an Image from the Project

Press this button to delete an image from the current project.   After pressing this button, point to an image on the Resource List and select to remove that object from the project. The image continues to exist on disk, however it is no longer associated with the current project.

Delete all Images from the Project

Remove all images from the current project.   When you execute this command, all images that are not included as objects in the scene are deleted from the project.

Editing and Processing Images

Select this button on the Command Bar to display a list of commands for the manipulation and editing of images.   Images can be resized, cropped, sharpened, blurred, flipped, mirrored and rotated.   In addition, you can change the color of the image by normalizing it or by modifying a color LUT (lookup table).

Resize an Image

Crop an Image

Sharpen an Image

Blur an Image

Normalize an Image

Rotate an Image

Flip an Image

Mirror an Image

Modify the Color Lookup Table for an Image

If after executing one of these commands you don't like the results, select the button on the Command Bar (or the Edit, Undo command on the Menu Bar) to undo the operation and begin fresh.

Resize an Image

Resize an image in terms of the number of horizontal and vertical pixels.   The horizontal and vertical dimensions can be resized independently, therefore this command can change the aspect ratio (the height to width ratio) of the image as it resizes it.

When you select this command a Resize window is displayed.   The **Width** and **Height** type-ins display the current size of the image in pixels.   Type in the desired new size for the object and press **OK** to execute the command, and press **Cancel** to exit this window.

Select the **Fast** option to resize the image more quickly, but at a lower quality.

✂ Crop an Image

Crop the current image in the viewport.   Select this command, then drag the pointer in the viewport to draw a bounding box that defines the area of the image to crop.   When you release the mouse button the image is cropped to fit within the bounds of the bounding box that you defined.

Sharpen an Image

Sharpen the current image in the viewport.   When you select this button the image is sharpened: any edges in the image become more exaggerated.

Blur an Image

Blur the current image in the viewport: make it appear "fuzzier".   When you select this button the image is blurred: any edges in the image become less well-defined.

Normalize an Image

Normalize the brightness over the current image in the viewport.   Using Normalize, you can select an area of the image, and adjust the brightness of the rest of the image to normalize it against the area you selected.

When you select this button a Normalize window is displayed.   First you must select a rectangular area of the image to normalize from.   The brightness in this sample will be the basis for the alteration in brightness of the image as a whole.

To select a rectangular area to normalize from, move the pointer into the viewport and drag a bounding box over the desired sample area.   When you release the mouse button, the sample area is displayed in the "postage stamp" box on the Normalize window.

The **Bias** spin box on the Normalize window allows you to determine the degree of normalization. The higher the number that is dialed in here, the stronger the normalization effect will be.

After defining the desired area, press **OK** to modify the image according to your changes.   Press **Cancel** to close the Normalize window.

Rotate an Image

Rotate the current image in the viewport.   Each time you press this button the image is rotated 90 degrees in a clockwise direction.

Flip an Image

Flip the current image around its horizontal axis.   As soon as you select this button the image in the viewport is flipped over.

Mirror an Image

Mirror the current image around its vertical axis.   As soon as you select this button the image in the viewport is mirrored.

📈 Modify the Color Lookup Table for an Image

Change the colors of the current image in the viewport by reassigning the RGB color values using color lookup table, or LUT.   When you select this button a graph is displayed on which you can modify the color values of each color channel independently or in unison.

The horizontal axis of the graph represents the default RGB color values from 0 to 255, where 0 is no color and 255 is 100% color.   The vertical axis represents the RGB color values that will replace the existing color values.

By default, the graph displays a line going from the lower left to the upper right.   This means that no color values have been altered: color value 0 on the horizontal axis is assigned to color value 0 on the vertical axis, 10 is assigned to 10 and so on: the color values at each point on the graph are not modified.

To change the color values at any point on the graph, drag the pointer to alter the graph's curve. When you release the mouse button the image in the "postage stamp" area of the LUT window changes to reflect your changes.   If you wish this display to update dynamically as you drag the pointer in the graph, press the 🔒 button to "**lock**" the display update to the graph.

If you drag the point at the far left side of the graph (the 0 saturation value) such that it is now at the top of the graph (255, or full saturation), any colors in the image with a 0 saturation value will now change to become 100% saturated.

You can modify the color values for each of the 3 color channels independently, or in unison.   The color channels that are being modified depend on which of the 🔴,
🟢 and
🔵 buttons are pressed in this window.   Select one or more of these buttons to enable the color channels that you wish to modify.   All three of these buttons are depressed by default, meaning that you are modifying red, green and blue channels in unison.
The **Number of Control Points** spin box changes the number of control points in the graph.   Sometimes it is easiest to reduce the number of control points so that you can quickly define the general nature of your curve, then increase the number of control points to fine-tune that curve.

Use the **Load** and **Save** buttons to load and save graph settings to and from disk.   This way you can duplicate your LUT settings over multiple images.

If you don't like your graph settings and wish to start over, press the **Reset** button.   After setting the alpha channel matte to your liking, press **OK** to execute the changes over the object in the viewport. Press **Cancel** to exit the LUT window.

Painting on Images

Select this button from the Command Bar to display a list of   commands for painting colors and textures onto an image.   You can draw on images in solid or gradient colors, or with textures.   Colors cab be applied using a variety of freehand brushes, including a standard brush, airbrush, blend brush, and pull brush.   In addition, you can use a variety of shape commands to draw colors or textures onto your image.

Draw Freehand

Erase a Paint Operation

Paint a Line

Paint a Rectangle

Paint a Circle

Paint an Ellipse

Paint a Polygon

Paint a Spline

Fill the Colors of an Image with New Colors

▓ Draw Freehand

Draw onto the image with a freehand brush.   When you select this command a window displays a variety of brush and color options.   Use this window to select the desired brush size and shape, as well as the desired brush type and color.

▓ When this button is selected in the Draw window, you are drawing with a normal, flat **Color Brush**.   Select on the Color Box to display the Color Palette window, from which you can select the color that you wish to draw with.   The value in the Transparency spin box next to the Color Box determines how thick the color is applied: a value of 100 is completely opaque: values below 100 become increasingly more transparent.

▓ When this button is selected in the Draw window, you are drawing with an **Airbrush**. This means that the edges of the brush will apply less color than the center of the brush.   As with the

▓ brush described above, a Color Box and Transparency spin box appear for color and opacity selection.

▓ When this button is selected in the Draw window, you are drawing with a **Pull Brush**. When you drag in the viewport with this brush type, the colors that exist at the point on the image where you begin dragging are painted over the areas where the brush passes.

▓ When this button is selected in the Draw window, you are drawing with a **Texture Brush**. Instead of painting with color, this brush type paints using an image texture.   When you select this button a "postage stamp" box appears in place of the Color Box.   Select on an image in the Resource List to select that image as the texture to paint with, and that texture now appears in this box.   Now when you drag the brush in the viewport the image that you selected is painted at the brush location.   A Transparency spin box allows you to control the opacity of the texture as it is displayed.

▓ When this button is selected in the Draw window, you are drawing with a **Blend Brush**. When you drag this brush type in the viewport, the colors over which the brush passes are "smudged", or blended together.   This is useful for eliminating hard edges that may appear when you collage images together.   The spin box that appears when this brush type is set us used to control the amount of blending: the higher the value, the more the colors are smudged.

▓ When this button is selected in the Draw window, you are drawing with a **Sharpen Brush.**   This brush exaggerates the edges between different color values in the image.

After selecting the desired brush and paint type, move the pointer into the viewport and drag the brush to draw over the image.

Erase a Paint Operation

Use a brush to erase part or all of   whatever you most recently painted onto the image in the viewport.   When you select this command an Erase window is displayed.   Use this window to select the size and shape of the brush that you want to erase with.   When you drag this brush in the viewport, it will erase the most recently painted portion of the viewport as it passes over that area.

If this brush doesn't erase what you want it to, that means that the area   you wish to erase is not the area that was most recently painted.   If this is the case, you may need to use the main undo button on the Command Bar.   However, remember that this button will sequentially undo each of the actions that were most recently executed.

◢ Paint a Line

Paint a straight line on the image in the viewport.   When you select this button a Paint Line window is displayed.   Use the buttons on the left side of this window to select the colors to use when a line is painted.

■ When this button is selected , you are drawing a line in a Solid Color.   Select on the Color Box to display the Color Palette window, from which you can select the color that you wish to draw with.

▦ When this button is selected, you are drawing a line using a Texture.   Instead of drawing with color, this button draws a line using an image texture.   When you select this button a "postage stamp" box appears in place of the Color Box.   Select on an image in the Resource List to select that image as the texture to draw with, and that texture now appears in this box.

■ When this button is selected, you are drawing a line using a Gradient Color.   Buttons appear in the Draw Line window to allow you determine the direction of the gradient, and the two colors that make up the gradient.   After selecting the direction of the gradient, select on each to the two color boxes that appear in turn to select the two colors between which the gradient is performed.

The value in the Line Width spin box below the Color Box determines how thick the line is: the higher the value here, the thicker the line.

After setting the color type and the line width to your liking, position the pointer in the viewport and begin dragging the pointer at the position where you wish the line to begin, then release the mouse button when the pointer is positioned at the desired endpoint, and a line is drawn between these two points.

Paint a Rectangle

Paint a rectangle on the image in the viewport.   When you select this button a Paint window is displayed: this paint window is the same, whether you are painting a rectangle, circle, ellipse, polygon or spline.   Use the buttons on the left side of this window to select the colors to use when a line is painted.

When this button is selected , you are painting a Solid Color.   Select on the Color Box to display the Color Palette window, from which you can select the color that you wish to draw with.

When this button is selected, you are painting a Texture.   Instead of drawing with color, this button draws a line using an image texture.   When you select this button a "postage stamp" box appears in place of the Color Box.   Select on an image in the Resource List to select that image as the texture to draw with, and that texture now appears in this box.

When this button is selected, you are painting a Gradient Color.   Buttons appear in the Draw Line window to allow you determine the direction of the gradient, and the two colors that make up the gradient.   After selecting the direction of the gradient, select on each to the two color boxes that appear in turn to select the two colors between which the gradient is performed.

When the button is pressed, you are drawing a solid shape.   When this button is not pressed you are drawing an outline of the shape, and a   Line Width spin box appears below the Color Box to define the thickness of the outline: the higher the value here, the thicker the line.

After defining the settings in the Paint window, position the pointer in the viewport and drag it to define a rectangle.   As soon as you release the mouse button the rectangle is painted.

⬤ Paint a Circle

Paint a circle on the image in the viewport.   When you select this button a Paint window is displayed: this paint window is the same, whether you are painting a rectangle, circle, ellipse, polygon or spline.   The use of this window is described in the <u>Paint a Rectangle</u> section.

After defining the settings in the Paint window, position the pointer in the viewport and drag it to define a circle.   As soon as you release the mouse button the circle is painted.

0 Paint an Ellipse

Paint an ellipse on the image in the viewport.   When you select this button a Paint window is displayed: this paint window is the same, whether you are painting a rectangle, circle, ellipse, polygon or spline.   The use of this window is described in the Paint a Rectangle section.

After defining the settings in the Paint window, position the pointer in the viewport and drag it to define an ellipse.   As soon as you release the mouse button the ellipse is painted.

Paint a Polygon

Paint a polygon on the image in the viewport.   When you select this button a Paint window is displayed: this paint window is the same, whether you are painting a rectangle, circle, ellipse, polygon or spline.   The use of this window is described in the Paint a Rectangle section.

After defining the settings in the Paint window, position the pointer in the viewport and select to define the first point of the first segment of the polygon.   Now as you move the pointer a line is drawn between the first point and the current pointer position.   Select again to select the second point: this point defines the end point of the first polygon segment and the first point of the next segment. Continue selecting points in this fashion to defined the desired polygon.

When you are done defining the polygon, select the right mouse button to complete the command.   A polygon segment is drawn between the first point you defined and the last point you defined to create a closed polygon

✏️ Paint a Spline

Paint a spline on the image in the viewport.   When you select this button a Paint window is displayed: this paint window is the same, whether you are painting a rectangle, circle, ellipse, polygon or spline.   The use of this window is described in the <u>Paint a Rectangle</u> section.

After defining the settings in the Paint window, position the pointer in the viewport and select to define the first point of the first segment of the spline curve.   Now as you move the pointer a line is drawn between the first point and the current pointer position.   Select again to select the second point: now as you move the pointer a curved line is drawn, beginning at the first point, passing through the second point, and ending at the current pointer position.   Select again to define a third point, and move the pointer to define the shape of the curve that passes from the second point, through the third point to the current pointer position. Continue selecting points in this fashion to define the spline.

When you are done defining the spline, select the right mouse button to complete the command.   A spline segment is drawn between the first point you defined and the last point you defined to create a closed spline shape.

Fill the Colors of an Image with New Colors

Paint the image in the viewport by selecting colors in that image that you wish to change to a new color, or by defining a boundary color in the image inside of which you wish to fill with a new color. When you select this button a Fill window is displayed.

There are three different fill methods: Boundary Fill, Seed Fill and Range Fill.

Press this button to perform a **Boundary Fill**.   A Boundary Fill replaces all pixels within a specified color boundary.   Therefore, only use this command to paint areas that are completely enclosed by a boundary color.   When you select this option two color boxes are displayed.   The box on the left indicates the fill color: select on this color box to display a Color Palette window from which you can select the with which you wish to fill.   The color box on the right displays the boundary color.   Choose the desired boundary color by selecting the Boundary option on the Fill window.   When this option is enabled, move the pointer into the viewport and select on the color that you wish to use as the boundary color. As you select in the viewport the boundary color box on the right changes to display the selected boundary color.   After selecting the desired boundary color, enable the Fill option on the Fill window.   Now move the pointer into the viewport and select on the part of the image where you wish the fill to begin.   The fill operation will continue over the image until the selected boundary color is met.

Press this button to perform a **Seed Fill**.   A Seed Fill replaces all contiguous pixels of a specific color value with another color value.   Only the specific "seed" color that you pick in the viewport is replaced by the new color, and the fill operation only affects all of the pixels of the seed color that touch one-another.   When this button is selected, a single color box is displayed on the Fill window.   Select on this color box to display a Color Palette window from which you can select the with which you wish to fill.   Then move the pointer into the viewport and select on a part of the image to pick the "seed" color to replace.   All touching pixels that are the exact same color as the "seed" color are changed.

Press this button to perform a **Range Fill**.   A Range Fill is similar to a Seed Fill, except that instead of choosing a single "seed" color to fill, you can choose a range of color values to fill.   When this button is pressed a Tolerance spin box is displayed in addition to the color box.   The higher the value you enter here, the more colors around and within your selected range of colors will be affected by this command.   To execute a Rage Fill, move the pointer into the viewport and drag it over the range of colors that you wish to fill to "sample" those colors. As you drag the pointer, the Number of Samples readout on the Fill window indicates that number of different color values that have been selected.   As soon as you release the mouse button the fill is performed over all contiguous pixels that fall within the selected range of colors.

🔴 Recoloring Images

Select this button on the Command Bar to   display a set of commands to recolor the image in the viewport.   Each of these commands uses a different method to modify the appearance of the current image.

When you select one of the Color Object commands, a window appears that allows you to define the nature of the operation and execute that operation.   If after executing one of these commands you don't like the results, select the 🖼️ button on the Command Bar (or the Edit, Undo command on the Menu Bar) to undo the operation and begin fresh.

The commands for recoloring images are the exact same as the commands for recoloring Objects.

Change the Brightness of an Object

Change the Hue of an Object

Change the Saturation of an Object

Change an Object into a Gray Scale Image

Invert the Colors of an Object

Change the Contrast of an Object

Recolor an Object

Emboss an Object

▣ Printing Images

Print the image that is currently displayed in the viewport using the Windows Print Manager.   When you select this command, you are prompted to select how you wish the image to be formatted on the page.

Stretch to Page scales the object up or down to cover the entire area of the page that you are printing.

Best Fit prints the object without scaling it, and will rotate the image, if necessary, to fit it onto the page.   If your object size is 1200 pixels horizontally (X resolution), and you are printing on a 300 dpi printer, it will print out to a size of 4 inches across (1200/300=4).

Scale allows you to select a specific X and Y Scale at which the object should be printed.   A value of 1 indicates no change of scale.   Values below and above 1 will reduce or increase the size of the printed image.