# 2·0 *Image Editor*
## User Guide

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***Sample image and graphics files***



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# *Welcome to Image Editor*

*The Image Editor program is dedicated towards enhancing and editing image files. With a comprehensive range of image processing commands and tools you can easily create, compose, change and improve any type of image – from Black & White to True Color. Unique new features such as the object pool and extensive drag-and-drop support make Image Editor the most convenient and efficient image editing program available today.*

## How to get the most from Image Editor

Reading this guide is not the only way you can learn about Image Editor: the ***introductory guide*** provides useful background information that will help you work more efficiently while the ***ReadMe*** file contains technical information and anything that came to light after this manual was produced. Lastly, the on-line ***help*** provides the most complete and in-depth reference to Image Editor. You can access help from the program by pressing the F1 key or clicking on the help button provided in certain dialog boxes.

This guide introduces Image Editor's functions and provides examples to illustrate their use as follows:

1. ***Getting started,*** introduces the Image Editor program window and provides a reference to the menu commands and tools.
2. ***Managing images,*** describes basic Image Editor functions such as creating, opening, saving and viewing image files.
3. ***Image Editor basics,*** explains how to apply commands and highlights drag-and-drop operations. There are also sections on using the clipboard and setting the Image Editor Preferences.
4. ***Making selections,*** shows you how to select areas of an image, save and load these areas as masks, and use the object pool.
5. ***Manipulating images,*** explains how to change an image's dimensions, resolution and data type and provides descriptions of transformation commands such as rotate and flip.
6. ***Painting,*** takes a look at working with colors and how you can apply those colors to images. There is also a section on editing the color tables of Indexed-Color images.
7. ***Enhancing images,*** describes how you can "touch–up" images by adjusting and correcting the color values of pixels. There is also a section on creating and using a variety of special effects.
8. ***Image input & stitching,*** introduces the different sources from which you can obtain images and explains how to stitch images.

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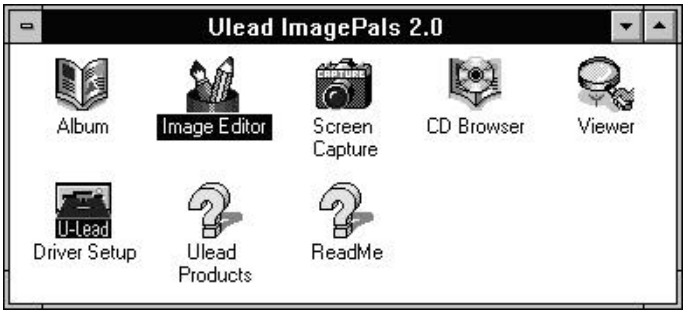
# 1 *Getting started*

*This chapter explains how to run Image Editor and introduces the Image Editor program window. After the introductory section there is a brief explanation of the menus, as well as tables referencing where in this guide you will find descriptions about menu commands and tools.*

# 1·1 Running Image Editor

To run Image Editor, you first need to locate the appropriate program icon. If you followed the suggestions made by the installation program, the Image Editor icon will appear in the ImagePals program group.

*The ImagePals program group*

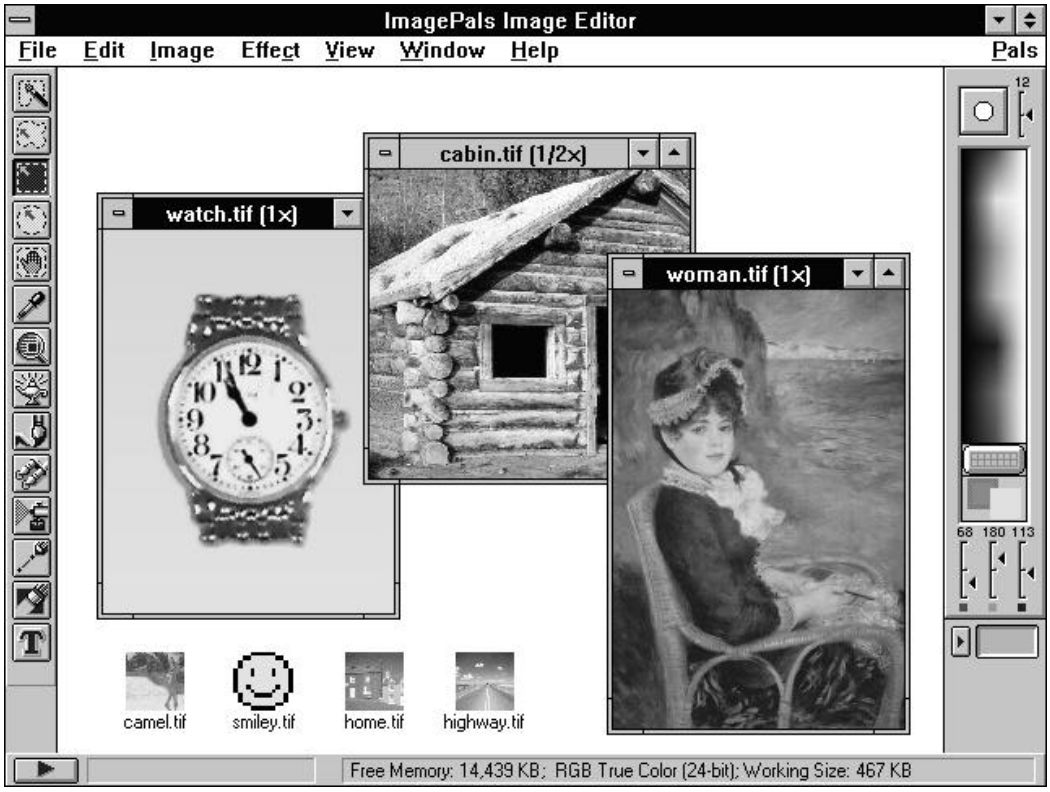



Run Image Editor by double-clicking on the Image Editor icon. The program window appears containing the product information box. (Clicking anywhere within the program window removes the product information box and enables Image Editor.)

## 1.1.1 The Image Editor window

When you invoke Image Editor you may see:

- Images in individual windows within the workspace of the Image Editor window (the central portion).
- The toolbar, on the left, containing the tools necessary to create selection areas, paint and edit images.
- The color palette, on the right, displaying available colors as well as access to the size and shape of paintbrushes and the object pool.
- The status bar, at the bottom, where information about the current image as well as menu command and tool messages appear.




*The Image Editor program window*

# 1·2 The Image Editor menus

One of the most common methods of applying operations to an image is to choose a command from the menu bar. In Image Editor certain commands can also be accessed through the menu button on the status bar or from a pop-up menu that appears when you click the right mouse button when on an image.

When you view menus, some commands appear in black while others are grayed-out. (The actual colors depend on your current Windows color scheme.) Commands in black are active and available for selection while grayed-out commands are inactive and unavailable for selection.

**Note:** *A command may be inactive because it is not currently applicable, e.g. when there are no images open the Close command is inactive, or when your PC does not have the necessary hardware to support that particular function.*

In each drop-down menu, keyboard shortcuts appear to the right of some of the menu commands. These allow you to perform the corresponding command from the keyboard – without the need to access the menu with your mouse.

After many commands you will see a right-pointing arrow or three dots. The arrow signifies that a submenu exists for that command while the dots indicate the command accesses a dialog box. If a command has neither of these, then its effect is immediate.

## 1.2.1 Command and tool reference tables

The following tables provide a list of all Image Editor's commands and tools. In each table, to the right of the command or tool name, you will find any shortcut keys available and the number of the page on which they are described.

## File menu

| Command | shortcut | p. |
|---|---|---|
| New... | | 18 |
| Open... | Ctrl + O | 16 |
| Restore | | 34 |
| Close | | 24 |
| Save | Ctrl + S | 21 |
| Save As... | | 22 |
| Batch Manager... | | 32 |
| Acquire... | | 130 |
| Source | | |
| Select... | | 130 |
| Auto Tone Adjustment | | 131 |
| Brightness & Contrast.. | | 131 |
| Tone Adjustment... | | 131 |
| Tone Mapper... | | 131 |
| Scan to Printer... | | 131 |
| Import | | 129 |
| Export | | 129 |
| Print... | Ctrl + P | 22 |
| Printer Setup... | | 22 |
| Preferences | | |
| Image Editor... | F6 | 42 |
| OLE & Clipboard... | | 44 |
| Photo CD... | | 44 |
| Display... | | 45 |
| Memory... | | 46 |
| File Formats... | | 46 |
| Exit | Ctrl + Q | 24 |

## Edit menu

| Command | shortcut | p. |
|---|---|---|
| Undo | Ctrl + Z | 34 |
| Cut | Ctrl + X | 35 |
| Copy | Ctrl + C | 35 |
| Paste | | |
| As Selection | Ctrl + V | 36 |
| Into Selection | | 36 |
| Clear | Del | 93 |
| Clipboard | | |
| Load... | | 37 |
| Save... | | 37 |
| Display... | | 37 |
| Select | | |
| None | Ctrl + N | 49 |
| All | Ctrl + L | 18 |
| Invert | | 55 |
| Border... | | 58 |
| Similar... | | 57 |
| Make Floating | | 49 |
| Discard Floating | F3 | 49 |
| Merge Control... | F4 | 59 |
| Load Mask... | | 65 |
| Save Mask... | | 63 |
| Crop | Ctrl + R | 69 |
| Fill... | Ctrl + F | 91 |
| Stitch... | Ctrl + T | 134 |
| Tile Two Images... | | 132 |

## Image menu

| Command | shortcut | p. |
|---|---|---|
| Tone Mapper... | | 108 |
| Tone Adjustment... | Ctrl + J | 106 |
| Brightness & Contrast... | Ctrl + B | 109 |
| Hue & Saturation... | Ctrl + H | 110 |
| Invert | F7 | 110 |
| Level Adjustment... | F8 | 111 |
| Optimize | F9 | 112 |
| Convert | | |
| Black & White | | 80 |
| Grayscale | | 82 |
| Indexed 16-Color | | 83 |
| Indexed 256-Color | | 84 |
| RGB True Color | | 83 |
| Duplicate | Ctrl + D | 18 |
| Resample... | Ctrl + M | 71 |
| Resolution... | | 70 |

## Effect menu

| Command | shortcut | p. |
|---|---|---|
| Blur | | |
| Slightly | | 113 |
| More | | 113 |
| Heavily | | 113 |
| Sharpen | | |
| Slightly | | 114 |
| More | | 114 |
| Strongly | | 114 |
| Despeckle | | 115 |
| Emphasize Edges | | 115 |
| Find Edges | | 116 |
| Adjust for NTSC | | 116 |
| Special Effects... | Ctrl + E | 119 |
| Warping... | | 117 |
| Custom Filter... | | 118 |
| Free Resize | | 72 |
| Flip | | |
| Horizontal | | 73 |
| Vertical | | 73 |
| Rotate | | |
| Left 90° | | 74 |
| Right 90° | | 74 |
| 180° | | 74 |
| Freely | | 74 |
| Degree... | Ctrl + G | 74 |
| by Horizontal Line | | 74 |
| by Vertical Line | | 74 |
| Slant | | 77 |
| Distort | | 78 |
| Set as Wallpaper | | 119 |

# View menu

| Command | shortcut | p. |
|---|---|---|
| Add a View | Ctrl + I | 25 |
| Actual View | Ctrl + A | 28 |
| Zoom In | + | 26 |
| Zoom Out | - | 26 |
| Fit in Window | | 27 |
| Full Screen | Ctrl + W | 28 |
| Image Information... | | 30 |
| System Information... | | 30 |
| Color Table... | | 89 |
| Options | | |
| Hide Toolbar | | 30 |
| Hide Color Palette | | 30 |
| Hide Status Bar | | 30 |
| Show Global Viewer | | 28 |
| Show Object Pool | | 61 |
| Show Rulers | | 30 |

# Window menu

| Command | shortcut | p. |
|---|---|---|
| Cascade | Shift + F5 | 20 |
| Tile | Shift + F4 | 20 |
| Arrange Icons | | 20 |

# Stitch mode menus

## Action menu

| Command | shortcut | p. |
|---|---|---|
| Auto Stitch... | | 135 |
| Done | | 135 |
| Quit | Ctrl + X | 135 |

## View menu

| Command | shortcut | p. |
|---|---|---|
| Actual View | Ctrl + A | 136 |
| Zoom In | + | 136 |
| Zoom Out | - | 136 |
| Transparency... | | 136 |

## Option menu

| Command | shortcut | p. |
|---|---|---|
| Auto Fine Tune | | 136 |

# Toolbar index

| Tool | p. | double-click on icon | click on image with: | |
|---|---|---|---|---|
| | | | **left mouse button** | **right mouse button** |
|  | 50 | options | select new area or move existing one | pop-up menu |
|  | 52 | select none | select new area or move existing one | pop-up menu |
|  | 53 | options | select new area or move existing one | pop-up menu |
|  | 53 | options | select new area or move existing one | pop-up menu |
|  | 54 | select none | move marquee | |
|  | 87 | select color | choose foreground color | choose background color |
|  | 27 | actual view | zoom in/out | actual view |
|  | 95 | options | apply effect | |
|  | 97 | options | apply foreground color | apply background color |
|  | 98 | options | apply effect | |
|  | 99 | options | apply foreground color | apply background color |
|  | 100 | options | apply foreground color | apply background color |
|  | 101 | options | apply effect | |
|  | 102 | options | options | |

# 2 *Managing images*

*This chapter and the next cover some of the more common functions you will use when working with images. They do not tell you how to perform complicated image editing or enhancing, but do provide basic information that will help you establish a good and efficient working method.*

*In this chapter you will find two sections: the first describes basic maintenance commands such as Open and Close; the second deals with the ways you can view images, information and elements of the interface.*

# 2·1 The basics

All Windows programs provide some basic commands that have a lot in common – and, if you are familiar with Windows, you will already know how to use commands such as Open, Save and Print. This section describes the Image Editor Open, Duplicate, New, Save As, Print, Close and Exit commands highlighting, where necessary, any ways they differ from other programs.

## 2.1.1 Opening image files

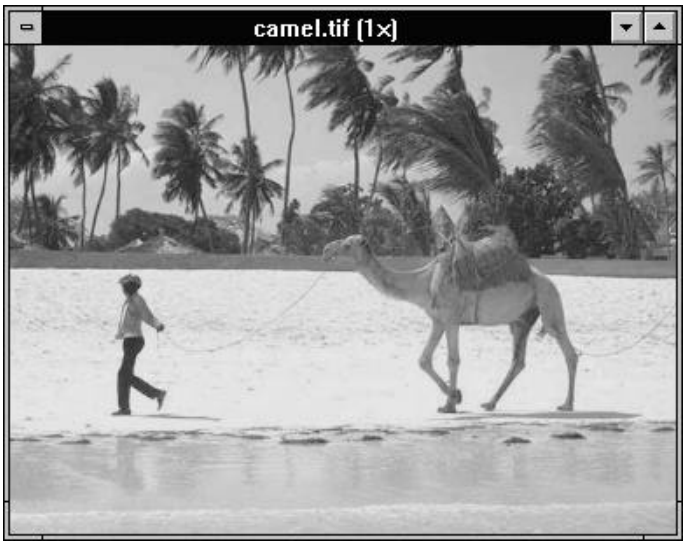
After installation you will find a number of files in the SAMPLES subdirectory under your installation directory. To open these files, or other image and graphics files, choose the Open command in the File menu. The Open dialog box appears displaying files of the current type shown in the ***List Files of Type*** combo box. To open a file simply click on its filename and press OK. (Double-clicking on the filename also opens the file.) The dialog box closes and the file is opened in the Image Editor workspace.

When you select a file, its information and contents (where possible) are displayed at the bottom of the dialog box. Some files may not display automatically, in such cases click on the Preview button to display the contents of the file.

**Notes:**

- *When you open a graphics file, which does not contain bitmap data, it is converted into an image and opens in an untitled window. (The data type of this image is the same as your current display mode). You can then edit it in the same way as other images.*
- *You can also open the files you have most recently been working on by choosing their names from the list at the bottom of the File menu.*

*An image window*




### *Opening multiple files*

One of the advantages of Image Editor is that it allows you to open multiple images in one go. You can also open images from the Album program of ImagePals or Windows File Manager. To open multiple images:

- in the Image Editor Open dialog box, use the Shift key in conjunction with your mouse to select a range of files or the Ctrl key to select, or deselect, individual files. (You can also drag your mouse over the filenames to select them.) Once selected click OK. The images open in individual windows in the program workspace.
- from ImagePals Album, select multiple thumbnails and drag them to Image Editor's icon in the Album toolbox, or to Image Editor's workspace or minimized program icon. This invokes Image Editor and automatically opens the files in the Image Editor workspace.
- from Windows File Manager, drag-and-drop image files in the same way as from ImagePals Album.

### 2.1.2 Duplicating images

When working with images you often need to make a copy of the active image. This allows you to continue editing without any danger of losing a particular stage of your work. You can also retain copies to compare images at different stages of your editing, helping you see the effects of particular commands. When you create a duplicate image it opens in a new untitled window that becomes the active window.

You can create a duplicate image in a number of ways:

- choose the Duplicate command in the Image menu.
- use the Ctrl + D shortcut key.
- choose the All command in the Edit: Select submenu to select the entire image and drag the selection into the open workspace.

### 2.1.3 Creating a new image

In many cases your images will have been obtained with some sort of image input device like a scanner or frame grabber, or you will have opened them from a CD or hard drive. At other times you will want to start with a “clean” image window for compiling elements of other images together or for using the painting tools of Image Editor.

*To create a new image:*

1. Choose "New" from the File menu. The New dialog box appears.
2. In the ***Data Type*** combo box, choose the data type of the new image. (For more information on data types see the introductory guide.)
3. Select an image size.

   To choose a pre-defined size click on one of the ***Standard*** options. To define your own size, click on the ***User Defined*** option and enter values for both the width and height. Clicking the ***Active Image*** option creates an image the same size as the active image in the workspace. (This is unavailable when there are no open images.) The ***Current Clipboard*** option creates an image the same size as the image on the clipboard. (This is unavailable when there is no image on the clipboard.)
4. Enter a value for the image's resolution.

**Note:** *If the Unit of Measure option in the Image Editor dialog box (see p.42) is in centimeters or inches, the resolution determines how many pixels are used to create the image: the higher the resolution, the greater the number of pixels and thus amount of memory required to store the image. When the Unit of Measure is pixels, the resolution determines how large your image will be when printed. The higher the resolution, the smaller your image will print (the memory required to store the image however, remains the same).*

5. Click OK. The dialog box closes and the new image, filled with the background color, appears in an untitled window.

### 2.1.4 Managing image windows

Image Editor allows you to work with many images open at the same time. This convenience makes it easy to combine elements from different images as well as being able to compare the “before-and-after” of a performed effect.

While working with multiple files can be advantageous, it also places a strain on your system’s resources – not to mention making the workspace cluttered. Image Editor provides the solution to these problems with the Cascade, Tile and Arrange Icons commands found in the Window menu. Cascade “stacks” open windows beneath and to the right of each other while Tile resizes open windows to fill the workspace. If you have a large number of minimized image windows, the Arrange Icons command arranges their icons along the bottom of the workspace.

**Note:** *To save on system resources, minimize images you are not currently working on. If you have a large number of open images, use the batch manager’s Minimize command (see p.32).*

### 2.1.5 Saving files

When you want to save your work, Image Editor provides three commands: Save, Save As and Save to Album. Use Save when you wish to update the file you are currently working on and Save As when saving new files, or to save a file to a new destination and/or filename. The Save to Album command is provided in the batch manager (see p.32) and allows you to save files to an album in the ImagePals Album program.

**Note:** *You can also save a file to a new album from the Save As dialog box by clicking on the Album button. This opens the Insert Thumbnails Into Album dialog box. To save to an existing album, check the* ***Save to Album*** *option and select an album from the combo box. (This is disabled if there are no existing album files.)*

You should save whenever you make changes to a file that you wish to retain. When you save, you can choose the file format you save your image in and, if a compression option is available, whether or not to compress the file. (For more information on file formats and the availability of the compression options, see the introductory guide.)

*To save an image for the first time:*

1. Select the image you wish to save.
2. Choose “Save As” from the File menu. The Save As dialog box opens.
3. In the ***Directories*** list box, select the drive and directory you want to save the image to.
4. Select a format from the ***List Files of Type*** combo box. For general purposes choose “TIF”.
5. In the ***File Name*** entry box type the name of your file (up to eight characters). You do not need to enter the File extension.

**Note:** *If you type in an extension, ensure that it is the same as the extension shown in the List Files of Type combo box.*

6. Click OK. The dialog box closes, returning you to the window containing your saved image.

### 2.1.6 Printing files

When it comes to printing your work, Image Editor allows you to output files to any Windows-compatible output device. Before you print however, make sure that your output device is turned on, connected and selected in the Printer Setup dialog box. If you need to, you can access this dialog box through the Printer Setup command in the File menu.

**Note:** *The Printer Setup command allows you to change the current printer options including the orientation of the page from landscape to portrait, and the paper size.*

When ready to print, choose the Print command in the File menu. The Print dialog box opens. In this dialog box you have a number of options to control the printed output.

The ***Scale to Fit the Page*** option scales images to be as large as possible on the page while maintaining their aspect ratio. With this option unchecked, images print at the size determined by their resolution.

The ***Center Image Horizontally***, ***Center Image Vertically*** and ***Start From Top Left Corner*** options allow you to choose where images print on the page. If both the center options are selected, images print centered on the page. (Choosing these options disables the corresponding ***From Top*** or ***From Left*** option.)

Image Editor also allows you to accurately control the way your printer simulates multiple shades in your images. The process used to do this is called halftoning or sometimes dithering. (For more information on halftoning, refer to the introductory guide.) For everyday printing, select the ***Perform Halftone by Printer*** option. This leaves the halftoning to the printer and should produce the quickest and most acceptable results.

The Tone Map button provides access to the Tone Mapper dialog box (see p.108). This function is intended to help you calibrate your printer to reproduce images consistently.

### 2.1.7 Closing files

When you have finished working on an image or wish to remove it from the workspace you can close it. It is a good idea to close unnecessary images as these occupy valuable system resources. You can close an image in one of the following ways:

- choosing the Close command in the File menu.
- double-clicking on the image window's Control menu box.
- choosing the Close command in the image window's Control menu.
- using the batch manager's Close or Close Quickly commands.

When you close an image, it disappears from the workspace. If you have not saved it, or you have made changes since you last saved it, a message box appears asking if you want to save the changes. Selecting No discards any changes; Yes saves them.

**Note:** *Close Quickly is only available in the batch manager (see p.32) and allows you to close selected images from the workspace quickly. When you use this command no new images or changes made to existing images are saved.*

### 2.1.8 Exiting Image Editor

When you have finished working with Image Editor, you can exit by closing the program window or by selecting the Exit command in the File menu. When exiting Image Editor, you will be asked if you want to save any new images or any changes made to previously saved images. If you have many open images, use the batch manager to save the images and then close them with the Close Quickly command.

# 2·2 Viewing

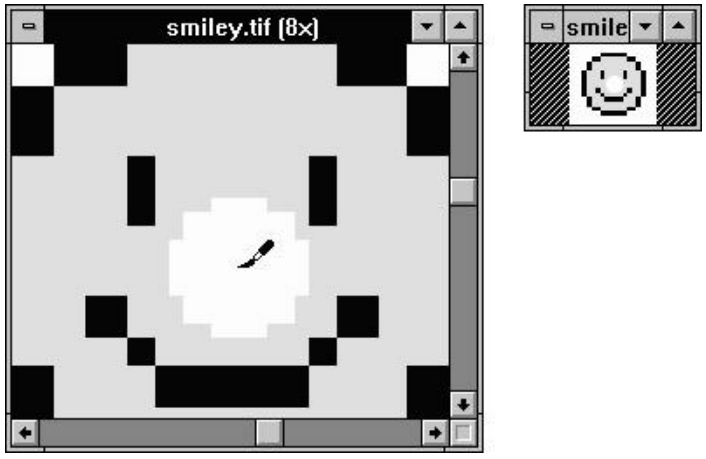
When you display an image, the image pixels are "mapped" onto your screen pixels. Controlling the mapping of these pixels determines the way you see images. This section takes a look at the ways you can control the view of an image as well as how to display file and system information and choose which features of the interface to show or hide.

## 2.2.1 Adding a view

When you edit specific portions of an image it is often difficult to appreciate how your editing affects the image as a whole. By choosing the Add a View command in the View menu, you can create a new window containing an additional view (at 1×) of the image you are working on. This image differs from a duplicated image in that any editing done in either of the windows is reflected in the other.

**Note:** *You can have up to eight views of an image displayed at any one time.*

*Editing an image (at 8x view) with a view added (at 1x view)*



### 2.2.2 Viewing images

Image Editor provides commands to adjust both the magnification at which an image is displayed as well as to determine what area of an image is displayed. This section deals with the ways you can control the magnification and window size while the next, the global viewer, describes how to control what area of an image is displayed.

#### *Zooming*

When you edit an image, you may want to see part of it in greater detail or more of the image at a smaller size. You can do this in two ways: with the Zoom In and Zoom Out commands from the View menu or using the zoom tool. Choosing the Zoom In command enlarges the view of an image. This allows you to zoom in up to 8× the actual view. To reduce the view, choose the Zoom Out command. This command allows you to zoom out down to ⅛× the size of the actual view.


*Image at actual view (1x), enlarged to 3x view and reduced to a ⅓x view*

The zoom tool provides an alternative to the Zoom In and Zoom Out commands and allows you to accurately zoom in on particular areas of an image. You can use the zoom tool in a number of ways:

- clicking the left mouse button zooms in on the area under your mouse pointer.
- holding down the Shift key and clicking the left mouse button zooms out from the image.
- clicking the right mouse button or double-clicking on the zoom tool icon in the toolbar returns the image to actual view (1×).
- dragging the left mouse button creates a rectangular viewing marquee. When you release the mouse button the image automatically zooms in on the area defined by the marquee. (If the viewing marquee is too large or the image is already at 8× magnification the view will not be adjusted.)

**Note:** *You can also press the "+" and "-" keys to zoom in and out on images – irrespective of the current tool selected.*

### *Fit in window*

When you use the zoom commands, the image window does not change to fit the new image size. So after zooming in, the entire image will not display in its window and scroll bars appear along the window border. If you wish to display the complete image within its window choose an available zoom command from the View: Fit in Window submenu. (The maximum zoom level available is determined by the size of the image and the resolution of your current display mode.)

### *Actual view*

When you open an image for the first time, it is displayed at its actual size, with each image pixel shown by one screen pixel. This is the normal (1×) view of an image. If you change the view of an image, for instance by zooming, you can return the image to its actual size by choosing the Actual View command in the View menu.

**Note:** *If you have the zoom tool selected, clicking on the image with the right mouse button performs the same effect.*

### *Full screen*

The Full Screen command in the View menu displays the active image at the current zoom level occupying the entire screen; the program window, toolbar, status bar and color palette are all hidden. The current editing tool and the Undo command (via the Ctrl + Z shortcut key) remain available and scroll bars appear when the image is too large to be completely displayed. To return to normal screen mode press the Esc key.

## 2.2.3 The global viewer

When the whole of an image cannot be displayed in its window, you would normally have to use the scroll bars to locate hidden areas. The global viewer of Image Editor is a better method that allows you to locate these areas quickly and easily by providing a thumbnail view of the entire active image. This thumbnail image contains a floating frame that can be moved independently around the viewer. Moving the frame automatically repositions the current view of the active image. To access the global viewer, choose the Show Global Viewer command in the View: Options submenu or the same command from the menu button in the status bar.

The global viewer can be moved around the program workspace by dragging on its title bar. If you want to use the global viewer for a quick adjustment, click on the box that appears at the intersection of the scroll bars in an image window. This displays the global viewer at the corner of the image window and allows you to reposition the current view by dragging the floating frame. When you release the mouse the global viewer disappears, or returns to its last position in the workspace.

**Note:** *Double-clicking on the title bar of the global viewer closes it. Double-clicking anywhere else adjusts the view of the image to fit within its window.*

*Using the global viewer to reposition the current view of an image*

### 2.2.4 Displaying information

Image Editor provides information about the active image and your system status with two commands in the View menu: Image Information and System Information. The Image Information command opens the Image Information dialog box. Here you can find information about the attributes of an image, such as its data type, dimensions, resolution, and working file size as well as various file details. These details include the filename, file format and space occupied on disk. There is also a section on the current state of your memory, disk space and whether your file has been modified since you opened it.

**Note:** *For different file formats the information provided may vary.*

The System Information command opens the System Information dialog box. Here you can find information about Windows including the version number, your current mode and available system memory. There is also a section on disk information displaying the current directory, size of your disk and available disk space.

### 2.2.5 Displaying interface elements

The Options command in the View menu reveals a submenu of show and hide commands. Choose the appropriate commands to show or hide the status bar, toolbar, color palette, global viewer, object pool and rulers. This submenu can also be accessed from the workspace by clicking on the menu button on the left of the status bar.

# 3 *Image Editor basics*

*So far this guide has introduced the Image Editor program and provided a look at some of the more common menu commands. This chapter takes you towards your first step into the world of image editing. Here you will learn how to apply commands, use the clipboard, perform "drag-and-drop" operations and customize certain display and feature options.*

# 3·1 Applying commands

To perform an operation, you first need to select the image you want the operation to be performed on, and then choose the appropriate command from a menu. This is fine when you are working with single files but proves inefficient when it comes to working with a large number of files. To overcome this "one-command, one-file" limitation, Image Editor provides an extra feature, the batch manager, that allows you to apply one menu command to multiple files. This section first describes the batch manager and then goes on to explain the Restore and Undo commands which can help you recover from any mistakes made.

## 3.1.1 Using the batch manager

The batch manager can be accessed in two ways: double-clicking on an empty part of the workspace or by choosing the Batch Manager command in the File menu. Once invoked, the batch manager opens and displays the filenames of all image windows present in the workspace as well as a combo box of operations that can be applied to them: Close, Close Quickly, Minimize, Print, Resolution, Restore Window, Save and Save to Album.

**Note:** *The batch manager can only apply operations to files that are open in the workspace. When there are no open files it is unavailable.*

To perform a batch command, choose the operation you want to perform, select the files you want the operation to be performed to and click OK – batch manager does the rest for you.

The batch manager contains an additional two commands not available in any of the Menus – Close Quickly and Save to Album. Close Quickly clears the workspace of all the selected images at one go, without asking to save changes. (Only use this command if you do not want to retain changes made in an image or to save new files.) Save to Album allows you to save selected images to a new or existing album in the Album program of ImagePals.

### 3.1.2 Recovering from mistakes

One of the advantages of working with images in a digital format is that you can experiment with a variety of different effects and filters. As a consequence you may perform a function and end up with an unsatisfactory or unexpected result. If you make such a mistake while working in Image Editor, you normally correct it by selecting the Undo or Restore commands.

### *Using the Undo command*

If you change your mind about a command you have applied, choose the Undo command in the Edit menu. The effect of the command is reversed, and the image is restored to its state prior to the application of the command. Undo will only undo the most recent change. If you need to undo several changes, use the Restore command to return the image to its last saved version.

Instead of "Undo" at the top of the Edit menu, you may see:

- *Redo...* this appears after you have "undone" something, effectively allowing you to undo the undo; in other words, redo the change.
- *Can't Undo* is displayed when it is not possible to undo the last action, e.g. after you have saved an image file.
- *Undo Disabled* means that the undo facility has been disabled in the Image Editor dialog box (see p.43).

### *Restoring an image*

When experimenting with a variety of effects on an image, you may not wish to undo each effect after you perform it. In such cases you can restore the image to its original state by choosing the Restore command in the File menu. (This essentially closes the file and reopens it.) Before using this command, consider carefully because it cannot be undone. If in doubt, create a duplicate image before restoring so that you can compare the current stage of your work with the original.

**Note:** *Whenever you make a major change to an image that you want to retain, you should save, or create a duplicate.*

# 3·2 Using the clipboard

Many commands in Image Editor make use of the clipboard. The clipboard is a temporary storage area for any type of information. This may be an image, text or even sound; but the clipboard can only hold one piece of information at a time. When you place something on the clipboard, existing clipboard data is overwritten: irrespective of whether you placed new data on the clipboard from another program or from Image Editor.

## 3.2.1 Performing a cut and copy operation

The most common methods of placing data onto the clipboard are the Cut and Copy commands. Regardless of the active image's data type, the Cut and Copy commands are always available. Copy places a duplicate of a selected area on the clipboard whereas Cut deletes the selected area and places it onto the clipboard. (The affected area of the image is filled with the current background color.) When there is no selection area, both Cut and Copy are applied to the entire image.

## 3.2.2 Pasting data into an image

After cutting or copying some image data, you can paste it from the clipboard into an image by choosing the As Selection or Into Selection commands in the Edit: Paste submenu.

The Paste commands are disabled when the clipboard is empty or the contents of the clipboard is from another, incompatible program and cannot be pasted into images. The Paste: Into selection is disabled when there is no current selection.

**Note:** *Image Editor allows you to paste image data into any image, regardless of data type. When pasted into an image of a different data type, the pasted data is converted. At times this may cause an extreme change in color, e.g. if the clipboard data is RGB True Color and the destination image is Indexed 16-Color.*

### *Pasting as selection*

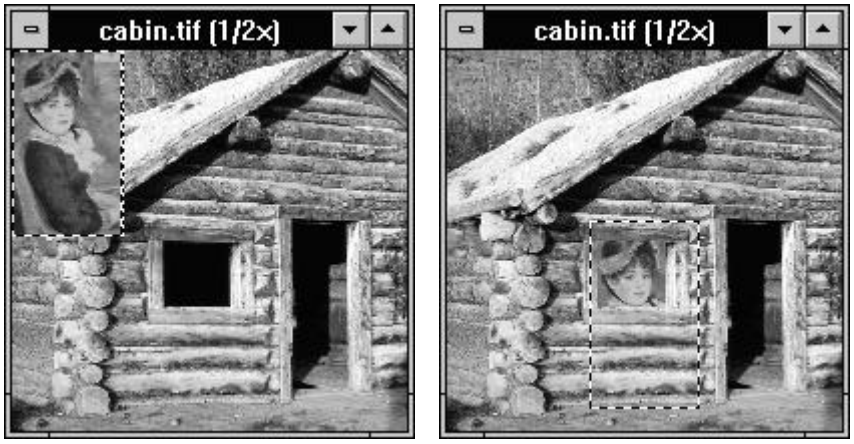
Using the As Selection command places the clipboard image at the top left corner of the current view. (You can freely move the image by dragging on it with one of the selection tools.) If you want to position the clipboard image at a specific point in the image prior to pasting, use a selection tool to draw a selection area starting at the point you want the data to be pasted. (The size of this selection area is not important.) This time when you paste, the top left of the image from the clipboard is pasted at the top left corner of the selection area.

**Note:** *When you drag a selection between images, it is dropped pixel-on-pixel. So, if your source and target images are at different zoom levels, the selection may appear to be enlarged or reduced when it is dropped.*

### *Pasting into a selection*

Use the Into Selection command when you want to paste the clipboard image inside the selection area of an image. If the clipboard image is larger than the selection area, only the portion contained within the selection area is displayed. After pasting, a selection marquee appears indicating the size of the clipboard image. This marquee can be moved to change the portion of the clipboard image displayed in the selection area.

**Note:** *If the pasted image is smaller than the selection area, it is placed at the top left corner of the selection. The remaining areas of the image are left unaffected.*




*Pasting image data As Selection (left) and Into Selection (right)*

### 3.2.3 The Clipboard submenu

To help you work with the clipboard, Image Editor provides a Clipboard submenu in the Edit menu. This submenu contains commands to Load, Save and Display clipboard images:

***Load*** – brings image files and previously saved clipboard images onto the clipboard. This command is similar to the Open command, but rather than opening a file and placing it in a new image window, Load places the file onto the clipboard.

***Save*** – saves an image from the clipboard to disk. After saving, you can open this image as you do any other images, or bring it back onto the clipboard with the Load command.

***Display*** - shows the current clipboard image. The clipboard window appears containing the image fitted in a window (if possible). To close the clipboard window, press a key or click the mouse.

**Note:** *These commands can only be used when the clipboard contains image data. The Windows Clipboard Viewer utility, accessed by choosing the Clipboard Viewer command in the Pals menu, provides similar functions for other types of clipboard data.*

# 3·3 Using drag-and-drop

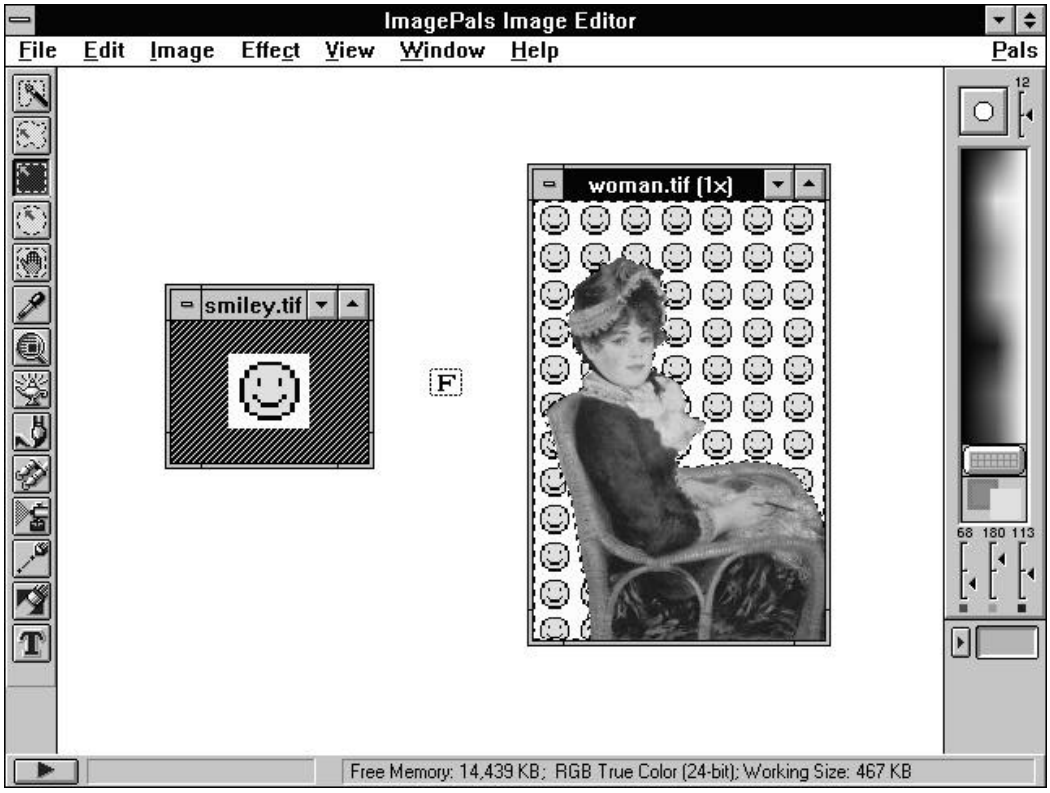
An advantage of working in a Windows environment is that you can use your mouse to easily move images around the program workspace as well as place them into other images or programs. Performing such tasks is referred to as “drag-and-drop”. Image Editor supports standard drag-and-drop operations as well as more advanced drag-and-drop operations such as moving selection areas to other images, the open workspace or the object pool. This section describes some of these more advanced ways of using drag-and-drop.

## 3.3.1 Drag-and-drop between image windows

Once you create a selection area, you can move the selection within the original window, or to any other image window, by dragging it with one of the selection tools. If you drag-and-drop between images of different data types, the dropped selection is converted to the data type of the destination image.

When you drag-and-drop a selection into another image, you have the choice of moving the selection into the image, filling the image (holding down the F key as you drop), or moving the selection marquee alone (holding down the M key as you drop).

**Note:** *When you drag a selection between images, it is dropped pixel-on-pixel. So, if your source and target images are at different zoom levels, the selection may appear to be enlarged or reduced when it is dropped.*




*Dragging a selection from the image on the left (with the F key held down) to "fill" the selected area of the image on the right*

### 3.3.2 Drag-and-drop to the workspace

During your imaging work you may want to retain or duplicate a particular part of an image. Image Editor makes this easy by allowing you to drag a selected part of an image into the open workspace; a new image window is created containing the image. (The background, where visible, is filled with the current background color.) If you hold down the M key as you perform the drag-and-drop operation, a Grayscale image is created containing the selection mask (for more about masks see p.63).


*Dragging a selection from the image on the left to the open workspace*

### 3.3.3 Drag-and-drop to the object pool

Image Editor provides a useful feature that allows you to instantly save selections and masks while you work – the object pool (see p.61). To save a selection area to the object pool, drag-and-drop it onto the object pool icon at the bottom of the color palette, or into the object pool window. By dragging selections from the object pool, you can place them into image windows or create new images by dropping them into the workspace.


*Dragging a selection to the object pool*

# 3·4 Customizing the way you work

All the ImagePals programs come equipped with extensive commands to customize the way each program operates as well as interacts with Windows. In Image Editor these commands can be found in the File: Preferences submenu. The following section discusses each of these commands and details how you can use them to improve the way Image Editor works for you.

## 3.4.1 Image Editor

Choosing the Image Editor command opens the Image Editor dialog box. From this dialog box you can set various features related to working with images while in the Image Editor workspace:

The ***Unit of Measure*** combo box allows you to define the measurement system used, centimeters, inches or pixels. When you are moving selection areas and wish to leave the original image unaffected by the move check the ***Preserve Image Under Selection*** option. With this option unchecked moving selection areas results in the original image under the selected area being filled with the background color. (This option can be conveniently "toggled" while you work with the F5 key.)

**Note:** *You cannot toggle this option when the selection is floating.*

The ***Enable Undo*** option, when checked, causes Image Editor to retain in memory the status of an image immediately prior to a change made to it. After making a change you may recover to the previous state by choosing the Undo command in the Edit menu. Undo does, however, occupy memory, as Image Editor has to "remember" what the active image was like before the last change was made. Unchecking Enable Undo frees this memory allowing you to work with larger images and to perform some operations more quickly.

The ***Number of File Names Kept*** option allows you to specify how many files are listed at the bottom of the File menu. This list contains the filenames of your most recently saved images, which can be opened by clicking on them.

The final option, ***Background Color in Thumbnail***, allows you to change the color used to fill the background of irregularly shaped selections appearing in an effect dialog box. Change this color when you find it hard to distinguish between the edges of the image and the background color. (The color selected here is also used to fill the background of irregularly shaped images stored in the object pool.)

**Note:** *The Image Editor dialog box can also be opened by pressing the F6 key or double-clicking on the status bar.*

### 3.4.2 OLE & Clipboard

Running under Windows 3.1, Image Editor can make use of the Windows OLE capabilities and act as a server program. The OLE & Clipboard dialog box allows you to choose what is placed on the clipboard when you use the Copy or Cut commands. This is important because it puts you in control of the demand on your system resources: you only want to copy the minimum amount to the clipboard to complete your task.

These options are fully described in the introductory guide, but if you want to use Image Editor as an OLE server, you must check the ***Include OLE Related Formats*** option. If this is unchecked you will find the OLE paste commands disabled in your client program.

When moving large amounts of image data, check the ***Delay Render*** option. This only places the data onto the clipboard when you decide to perform a paste operation. For general purposes leave this unchecked.

**Note:** *After placing images onto the clipboard, do not change these options before pasting. Doing so may produce unexpected results.*

### 3.4.3 Photo CD

The Photo CD dialog box gives you the option of determining the resolution and data type of any image files imported from a Kodak Photo CD. Any changes made here are also reflected in the CD Browser program.

### 3.4.4 Display

The Display dialog box allows you to adjust the way images are displayed by Image Editor.

If you are using a HiColor display mode, checking the ***HiColor Dithering*** option improves display of True Color images. When working in a 256-color display mode, you can select the ***View Images With a Common Palette*** option to display all images with the system palette – this provides reasonable representation of all images and makes your work quicker because the palette stays the same: as such there is no need to repaint any of the images.

A 256 Color display mode also enables the ***Don't Care About Background Quality*** option. If you have selected the common palette option, this makes no difference, otherwise select this option to prevent the background images repainting – giving you the best representation of the active image and the fastest working environment. (You cannot, however, compare images with this option selected.)

The final option present in the Display Preferences is the ***Monitor Gamma*** option. This tunes your monitor to the current display. It is very important that you calibrate your display before you start working with images for the first time. To learn more about how to calibrate your display, please refer to the introductory guide.

### 3.4.5 Memory

The Memory command gives you the opportunity to specify directories which can provide additional working space when working with images. The first directory shown is the TEMP directory defined by the SET TEMP statement in your AUTOEXEC.BAT file. Image Editor provides a further three choices that would normally be different drives. If you are working on a network, you may have different space allocations on the same drive; in such cases you can specify more than one temporary directory from the same drive.

### 3.4.6 File Formats

The File Formats command allows you to specify which file formats you want Image Editor to support. When you use Image Editor for the first time all available file formats are placed on the active list. This allows you to open a wide range of files but does use up valuable system resources and extends the List Files of Type combo box (in certain dialog boxes).

If you only work with a limited number of file formats, then use this command to remove unnecessary formats from the active list. This will save you a lot of time when you open and save files as you do not have to scroll through so many formats every time.

**Notes:**

- *If you have an image currently open in the workspace, the image's file format appears with an asterisk; indicating that the format is in use. If you want to remove the format from the active list first close the image.*
- *The object pool stores images in the TIF file format. If you want to use the object pool, ensure that the TIF format is on the active list.*

# 4 *Making selections*

*An essential part of working with images is being able to manipulate portions of an image. Image Editor provides a comprehensive range of selection tools and commands that allow you to accurately isolate those areas you want to perform an operation on and protect areas you want left alone.*

*This chapter begins by introducing selection areas and explains the tools and commands you use to select and manipulate areas within an image. Following this is a section on the object pool – an indispensable tool that not only increases your productivity, but adds a whole new dimension to the way you work with selections and images.*

# 4·1 Understanding selection areas

After opening an image, you can choose to edit the entire image or selected parts of it. To edit specific areas within an image, you must first select them. Unless a selection area has been created, any editing you do may affect the entire image. Image Editor allows you to select a single part of an image or multiple, unconnected parts.

**Note:** *When moving images an important consideration is the Preserve Image Under Selection option in the Image Editor dialog box. If this option is checked, any selected areas leave the original, underlying image unaffected. When it is unchecked, the underlying image of the selection is replaced by the background color – you can see this when you move or transform the selection. (This option can be toggled by pressing the F5 key.)*

*Moving a selection area with the Preserve Image Under Selection option disabled (image on the left) and enabled (image on the right)*

### 4.1.1 The selection marquee

When you create a selection, an animated dotted line appears around the edge of the selected area. This dotted line is called the selection marquee. This marquee can be either floating, *containing* some image data, or non-floating, *selecting* part of the active image. A floating selection is created when you:

- move a selected area,
- perform a transformation on a selected area,
- paste or drag a selection into an image,
- choose Make Floating from the Edit: Select submenu.

#### *Deselecting and discarding selections*

After editing or moving a floating selection you can make it part of the underlying image or remove it. To make it part of the underlying image, you deselect it by:

- choosing None from the Edit: Select submenu,
- double-clicking on the freehand or move selection tools in the toolbar.

To remove a floating selection, choose the Discard Floating command in the Edit: Select submenu. (If the selection is not floating, this command is disabled and you cannot “remove” the selection area as such, but you can Undo your last applied action or Restore the image, see p.34).

# 4·2 Making and manipulating selections

You can create and manipulate selection areas with the selection tools at the top of the toolbar and the select commands in the Edit: Select submenu. This menu can also be accessed by clicking the right mouse button on an image when a selection tool is selected. (Choose a command by dragging down the menu and releasing the mouse button or by clicking on the appropriate command with the left mouse button.)

This section describes how to use the selection tools to select anything from similar colors to irregular shapes.

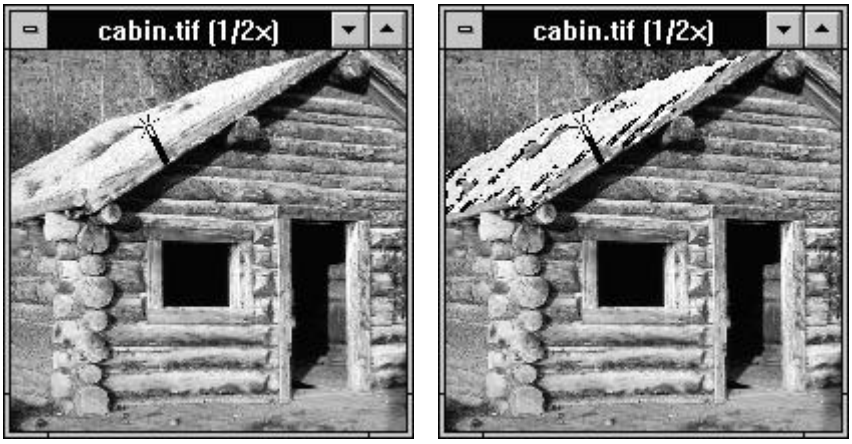
## 4.2.1 Selecting an area containing similar colors

The magic wand tool selects an area in an image that contains colors or grays falling within a defined color range. To define this color range double-click on the magic wand icon in the toolbar. The Magic Wand dialog box appears. In the ***Color Similarity*** entry box, type in the value that you feel closest reflects the range of colors you wish to select.

To select an area of the active image, click in the center of the area you want to select (the color value of the pixel under the magic wand is displayed in the left-hand portion of the status bar). All the surrounding pixels that fall within the color range will be selected.

Below is a guideline on what to expect when choosing particular color values.

- A value of 0 selects neighboring pixels of exactly the same gray or color.
- A value of 255 selects pixels of all colors and grays – thereby selecting the entire image.
- A value of 50 selects neighboring pixels that have values which differ from the pixel you clicked on by ±50. For example, if you click on a pixel with values R25, G60, B190, neighboring pixels with values between R0, G10, B140, and R75, G110, B240 will be selected.



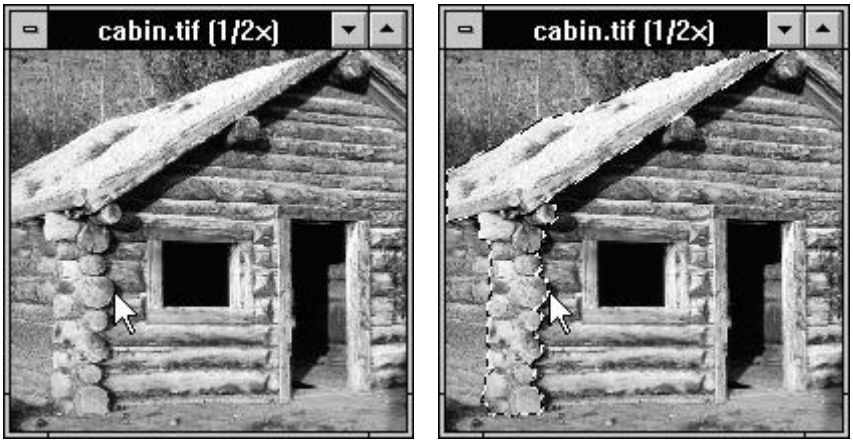

*Using the magic wand tool to select an area of similar colors*

. **Note:** *You can expand existing selection areas to include areas of similar colors with the Similar command in the Edit: Select submenu (see p.57).*

### 4.2.2 Selecting irregularly shaped areas

Using the freehand tool you can select an area of any shape you desire. Do this by dragging the tool to outline an area or by clicking on selected points to define the ends of straight line segments. Once completed, double-click and Image Editor automatically completes the selection by drawing a straight line between the last and first point of the selection.

**Note:** *If you make a mistake while drawing a selection area with the freehand tool or wish to start again, press the Esc key.*




*Using the freehand tool to select an irregularly shaped area*

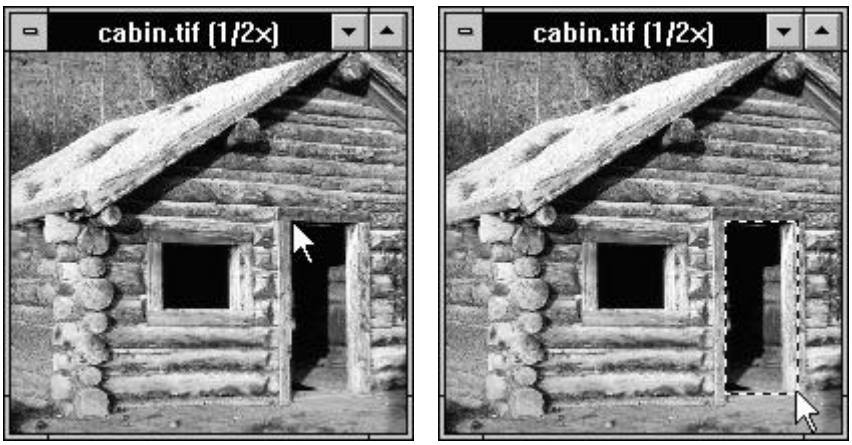
### 4.2.3 Selecting square and circular shapes

Image Editor provides two tools which select areas of preset shapes, the rectangular and elliptical selection tools. Both tools operate in a similar manner and provide two basic methods for creating selection areas: freehand and fixed size. To define this mode, double-click on the tool icon in the toolbar. The appropriate tool dialog box opens.

In ***Fixed*** mode you can define the width and height (in pixels) of your selection area. When you click on the image the selection area appears at this size.

In ***Freehand*** mode, you drag the mouse over the area you want to include in the selection. A further option, ***Draw From Center*** allows you to determine if the selection area is defined from the center out or top left corner.

**Note:** *Depending on the tool selected, you can define the selection area as a square or circle.*




*Using the rectangular tool to select a rectangular area*

### 4.2.4 Moving the selection marquee

When you click on a selection area with a selection tool and drag, the selection marquee and the image data it contains both move. If you wish to move the selection marquee alone without its contents use the move tool. If the selection area was floating, the contents of the area become part of the underlying image.

**Note:** *To drag a selection area from one image to another you should use one of the selection tools and hold down the M key as you drag. After you drop the image the move tool becomes the current tool.*


*Dragging a selection marquee from the image on the left (with the M key held down) to the image on the right*

### 4.2.5 Inverting a selection

When you wish to protect a particular area while working on the rest of an image, select it and then choose the Invert command from the Edit: Select submenu. This “flips” the selection area so that those areas originally selected are now deselected and the unselected area is selected. This allows you to work on the rest of the image with no danger of damaging the area you want to protect.


*Selecting the woman (image on the left) and then inverting the selection to select the background*

# 4·3 Selecting more of an image

Image Editor allows you to use any combination of its selection tools to add to or subtract from existing selection areas. To select additional areas of an image, or to extend an existing area, make your initial selection and then, with the “Shift” key held down (the pointer changes to display an addition sign) use a selection tool to select more of the image. If you wish to exclude an area from an already selected area, hold the Ctrl key down (the pointer changes to display a subtraction sign) and select the unwanted area – the marquee redraws itself so that it no longer contains that area.


*1. Create a selection area*


*2. Add to the selection (hold down the Shift key)*


*3. Subtract from the selection (hold down the Ctrl key)*

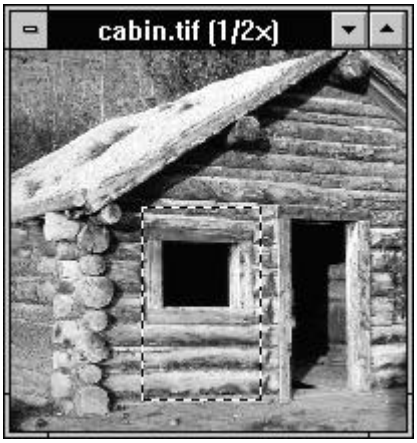
### 4.3.1 Expanding a selection

As well as using the Shift key in conjunction with the selection tools to select more of an image, you can expand selection areas with the Similar command in the Edit: Select submenu. When you select this command the Similar dialog box opens. This dialog box allows you to define a color range and whether to expand the selection to include neighboring areas of similar pixels or similar pixels from the entire image. This is most useful when you have a complex image on a simple background and, after selecting part of the background, you wish to expand it to include the whole.

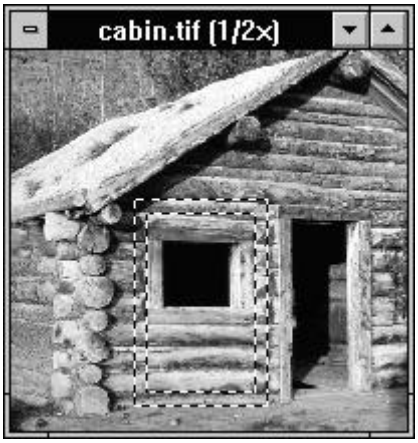
*Expanding the selection on the left with the Expand From Current Selection option enabled*

### 4.3.2 Selecting the border of an area

When you want to add a keyline to part of an image or draw a box or circle use the Border command in the Edit: Select submenu. This allows you to select a line of pixels around the edge of the current selection marquee – the width of the line is determined by the width specified in the Border dialog box that appears when you choose this command. (You can define the border width from 1 to 64 pixels.) The border is created centered on the selection marquee, i.e. half the specified width is placed on the inside of the marquee and half on the outside. After defining a border you can then "fill" it with a color to create a keyline, box or circle, or use a blurring or averaging effect to "blend" the edges of the selection area into the surrounding image.




*1. Create a selection area*




*2. Apply the Border command*

# 4·4 Merging a selected area

When you deselect a floating selection, the contents of the selection completely replace the portion of the underlying image below it. In many cases this may be desirable, but you will often require greater control over the process.

The Merge Control dialog box gives you that control. Specifically, it provides options to set the transparency of the floating area, how colors combine and the degree to which the edges of the floating selection are blended with the underlying image. Use these options as follows:

- ***HSB*** merges the floating selection as you see it.
- ***Hue and Saturation*** merges the colors in the floating selection with the underlying image. If your underlying image is a Grayscale image that has been converted to RGB True Color and your floating selection is a colored square, this option will combine the color of the floating selection with the underlying gray image: thereby colorizing the gray image.
- ***Hue only*** merges only the hues from the floating selection with the underlying image. Use this option to change the color of areas in a colored image.

**Transparency** defines the transparency of the floating selection. Choosing 0% and the floating selection completely replaces the underlying image; the closer the value is to 100%, the greater the transparency. At 50% the floating selection and underlying image are merged equally.

**Edge Blending** determines the number of pixels (depth) at the edge of the floating selection that are blended with the underlying image. This function is centered around one pixel, hence the available options are odd numbers (3, 5, 7, 9 and 11).

**Notes:**

- *The merge control is a "modal" command, that is, its effect is only permanent when the floating selection is deselected. Before that time you can reapply the merge settings and even move the selection area.*
- *The Merge Control is only available when there is a floating selection and you are working on a Grayscale or RGB True Color image.*

*Merging a floating selection (25% transparency) with the underlying image*

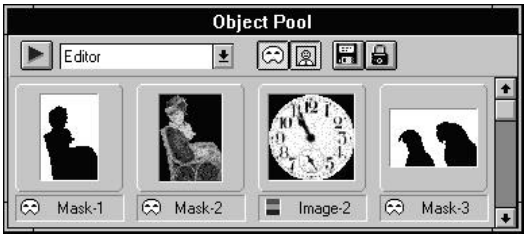
# 4·5 The object pool

When you create a selection area you may want to save it and its contents for later use. Doing this allows you to use the same selection for multiple images or use it repeatedly with the same image. To do this Image Editor provides a unique and easy-to-use feature: the object pool.

To access the object pool, double-click on the object pool icon at the bottom of the color palette. The object pool window opens. In this window, stored selections are displayed as thumbnails and a ribbon, at the top of the window, displays the name of the current group and various function and selection buttons.

**Note:** *The object pool is always on top of the Image Editor program window and any image windows. To close the object pool double-click on its title bar or choose the Hide Object Pool command in the View: Options submenu.*

*The object pool*



### 4.5.1 Saving selections to the object pool

You save a selection in the object pool by dragging it from an image to the object pool or its icon. The selection is then automatically saved and a thumbnail of the selection appears in the object pool window.

When you save a selection area, you have the option of saving it as a mask or image "object". (You choose which in the Object menu, accessed by clicking on the blue menu button). A mask object is a selection marquee, while an image object is a selection marquee and the image data it contains. For Grayscale images there is an additional option to save a selection area as an "image as mask". This converts the image into a selection marquee and saves the marquee.

**Notes:**

- *Holding down the M key as you drag a selection area into the object pool automatically saves the selection as a mask object.*
- *Selections are saved in the TIF file format in the directory specified at the time the group was created. (The files are identified with an O prefix followed by the letter I [image], K [image as mask], or M[mask], with a creation number at the end.) You can choose to compress these files when they are created by checking the* ***Compress Objects*** *option in the Information dialog box, accessed by choosing the Information command in the Disk menu.*
- *When saving a selection as an image or image as mask object, Image Editor creates two files. One is the image portion of the file, the other is the mask portion which used to define the shape of the image.*
- *As the object pool uses the TIF file format, the TIF format must be one of the available file formats (see p.46).*

### *Saving selections to file*

Although the object pool allows you to easily export masks as Grayscale images, reimport images as masks, and place masks into images, you may want to export a mask to another machine, or save it to a secondary storage device. Image Editor provides a direct method of doing this: the Save Mask command in the Edit: Select submenu. This opens the Save Mask dialog box and allows you to save the current selection marquee as a Grayscale image in a file format of your choice (the options in this dialog box are the same as the Save As dialog box, see p.22).

**Note:** *In general, do not save masks in a format that involves "lossey" compression (like JPEG), these formats will change the mask. For general purposes, use the TIF file format (with or without compression).*

## 4.5.2 In the object pool

The object pool is a very handy and useful place to store your work. It can however, become quickly cluttered with large numbers of masks and images. To better organize these masks and images you can place them into user-defined groups. Once created, a group can be selected by choosing its name from the group combo box in the object pool ribbon. To view the objects of a group, click on the mask and image buttons in the object pool ribbon. If neither button is pressed the window will be empty. (These buttons are disabled if the group does not contain their respective objects.)

*To create a group:*

1. Double-click on the object pool icon. The object pool window opens.
2. Click on the disk button in the ribbon and choose “Create Group”. The Create Group dialog box appears.
3. Type in a name for your group in the ***New Group Name*** entry box. The name can be up to 10 characters long (do not type in an extension). If you want to change the path and directory where the group is saved, type in a new destination in the ***New Group Directory***. (Group files are saved with the OPG file extension.)
4. Click OK. The dialog box closes and the newly created group appears as the active group in the group combo box.

You can import object groups from a network by choosing the Import Group command from the disk menu. (When you import a group, the group file and objects remain in their original directories.) If you wish to share your own object groups but want to make them read only, click the lock button. Other users can still access your object groups but cannot make any changes to your objects or groups. If a group from another user is locked, the lock button in your object pool will be depressed (you will not be able to unlock it).

### *Deleting groups and objects*

Having created a group, you can easily delete it and its associated files from disk by choosing the Delete Group command in the Disk menu. To delete an object from a group, click on the object to select it and choose the Delete Object command in the Disk menu.

### 4.5.3 Retrieving an object

Just as you create objects by dragging them into the object pool, you can retrieve them by dragging them from the object pool into an image window or the workspace. Dragging an object to the workspace creates a new image window containing the object as a floating selection. You can then edit the object just as you would any other image.

If you drag an object back to the image it originally came from, or another of equal size, the object is placed as a floating selection in the same position it was originally taken from. If the destination image is a different size, the selection is placed at the position of your mouse.

When dragging mask objects into an image, the selection tool automatically changes to the move tool. This enables you to accurately identify the areas selected by the mask and to move it freely without fear of affecting the underlying image.

**Notes:**

- *When placing a mask object that has been created from a Grayscale image into an Indexed-Color or Black & White image the gray areas of the mask are converted to pure black or white.*
- *To load a previously saved mask (or any Grayscale image) into the active image as a selection marquee, use the Load command from the Edit: Select submenu.*

### 4.5.4 Editing masks

When you create a selection area, areas are either selected or not. This means that when you apply commands to the selected area you will often get a hard edge or too strong an effect. To avoid this you can export the selection area as a mask and edit the mask so that some areas are partially selected, i.e. commands will only have a partial effect on these areas.

When you export a mask, by dragging a selection area from an image into the workspace (with the M key held down) or by dragging a mask from the object pool into the workspace, a Grayscale image is created. You can edit this Grayscale image as you would any normal image, but always remember:

- black areas are not selected,
- white areas are selected,
- gray areas are partially selected. When the mask is placed into an image and editing functions are applied to the image, the degree of effect is determined by the gray shade – the closer to white the greater the effect; the closer to black the less the effect.

When you finish editing and wish to place the mask back into an image as a selection marquee, you do so via the object pool:

1. Select the whole image with “All” from the Edit: Select menu.
2. With the “image as mask” option checked in the object pool menu, drag the image back into the object pool. The image is saved as a mask.
3. Drag the newly created mask object into an image.

**Note:** *When a mask containing gray shades is dragged into an image, the selection marquee may not appear to accurately represent the mask. This is because the selection marquee only shows the border of areas in the mask that go from a value less than 128 to a value greater than 128. If your mask is very dark, containing only gray values below 128, no marquee will be shown: if it is very light, containing only gray values greater than 128, the whole image will appear to be selected.*

# 5 *Manipulating images*

*Editing images involves many different stages and operations. Rather than presenting all the facilities provided by Image Editor in one place, we have separated them out into three chapters: Manipulating images, Painting and Enhancing images.*

*This chapter deals with manipulating images, and explains how you can change images by converting their data type, changing their resolution or size, or applying transformations to them such as crop, flip, distort and rotate.*

# 5·1 Transforming images

Whatever your reasons for editing images, it is essential to be able to manipulate them to suit your intended purpose. Whether you are preparing images for a publication and need to resize and crop them or preparing images for display and need to convert them – Image Editor's manipulation commands will more than satisfy your needs.

This section deals with the commands that you use to crop, resize, rotate and distort images.

**Notes:**

- *If the Preserve Image Under Selection option is unchecked (in the Image Editor dialog box) sections of an image may be filled with the background color after applying transformation commands. (You can toggle this option by pressing the F5 key).*
- *If, in transforming a selection, you click on or drag anything other than a handle, the handles will disappear. By choosing "Undo" you can undo your last action, but this does not make the handles reappear.*

### 5.1.1 Cropping an image

Cropping is a way to trim the edges of an image and control the position and size of the subject in an image. This is particularly useful when you have images that are too large to be displayed and contain information around the edges that you wish to discard. It is important to remember that when you crop an image the cropped portions cannot be retrieved again, unless you immediately undo the Crop command or restore the image.

*To crop an image:*

1. Select the area of the image you wish to retain.
2. Choose "Crop" from the Edit menu. The areas outside the selection marquee are discarded. Only the area you selected is retained.

**Note:** *If you select a non-rectangular area, the image is cropped to the smallest rectangle that can contain the selected area. Areas outside the selected area are filled with the current background color.*

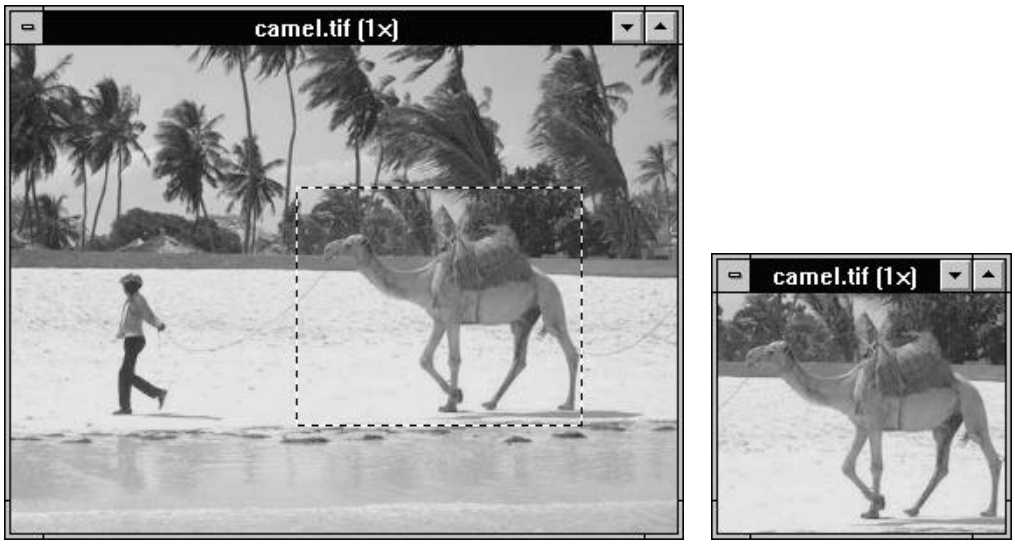



*Image with area selected before cropping and, on the right, after cropping*

### 5.1.2 Resizing images

You can resize images in three ways: by changing their resolution, resampling them or resizing a selected portion of them. Changing the resolution of images adjusts their size without changing the actual image data and thereby retains original quality. Resampling an image discards data when you reduce an image and creates new data when you enlarge one. Resizing a selection area stretches or shrinks the selection within the image.

#### *Changing an image's resolution*

Resolution determines the physical size of an image by defining the size of its constituent pixels. As you change the resolution, you change the number of pixels that can be placed in a given measure making the image bigger or smaller: increasing the resolution reduces the size of the image while decreasing it makes the image larger.

In this way you resize an image without actually changing the number of pixels the image contains, thus retaining the original quality of the image. (The images in this guide have all been resized by changing their resolution.)

*To change the resolution of an image:*

1. Select the image whose resolution you want to change.
2. Choose "Resolution" from the Image menu. The Resolution dialog box appears.
3. Decide on the resolution to use: ***Display***, ***Printer***, or ***User Defined***. If you select User Defined, enter a new resolution in the entry box.
4. Click OK. The dialog box closes and the resolution of the active image is changed. There is no change to the appearance of the image. Changes are only apparent when you print the image or place it into another program that reads the resolution.

*Image before resizing*

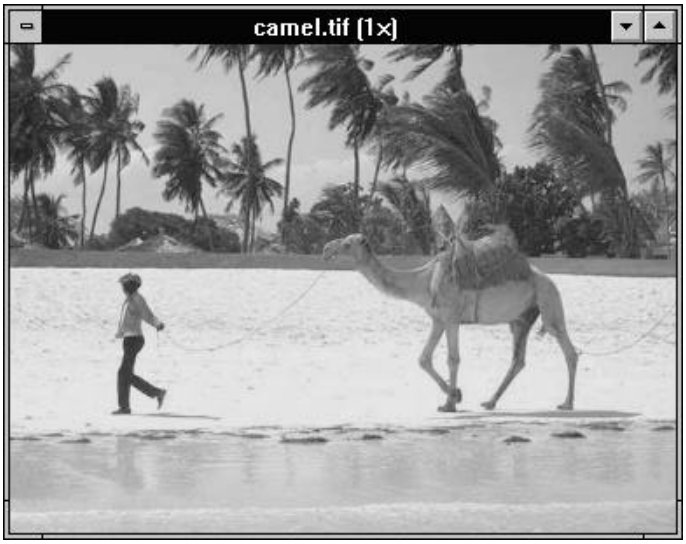



*Image after resizing*

*Left: increasing resolution by 2×*

*Right: resampling to 50%*


### *Resampling an image*

When you open images, their size on screen is determined by your screen resolution and the number of pixels they contain. The Resample command allows you to adjust the number of these pixels in an image. You will want to do this when:

- you are preparing images for display on your computer, e.g. in a slide show, and wish to make them all display at the same size.
- you are preparing images for a publication and you wish to make their file size smaller so that they take less time to import into, and print from, your DTP or word processing program.
- you wish to stretch or squash an image.

*To resample an image:*

1. Select the image you want to resample.
2. Choose "Resample" from the Image menu. The Resample dialog box appears containing information about the current width and height of the image.
3. Check the ***Keep Aspect Ratio*** option to retain the proportions of the image. Uncheck this option to independently change the width and height of the image.
4. Enter the new width and height for the image. (If Keep Aspect Ratio is checked, entering one value automatically adjusts the other value.)
5. Click OK. A new image window is created with the new width and height specified.

**Notes:**

- *Resampling up generates new data, thereby increasing the size of the image file. Conversely, resampling down discards data and results in a smaller file, but may reduce image quality.*
- *If you enter a new width and height of 100%, the image is duplicated. Entering 200% doubles the size of the image and 50% halves the size. This affects the output (physical) size of the image as well because the resolution remains unchanged. Therefore, if you wish to reduce the size of an image file and retain its physical size you must reduce its resolution by a corresponding amount.*

### *Resizing selected areas of an image*

With the Free Resize command, in the Effect menu, you can make the contents of a selection area bigger or smaller. When you choose this command, handles appear at each corner and side of the selection marquee. Dragging a handle resizes the selection area. Holding down the Shift key as you drag maintains the original proportions of the selection.

### 5.1.3 Flipping an image

The crop, resolution and resample commands all relate to the manipulation of entire images. The Flip command is an example of a command which can be applied to either an entire image or to a selected part of an image. After "flipping" the image or selected area is horizontally or vertically mirrored.

*To flip an image or selection area:*

1. Select the part of the image to flip. (To flip the entire image, do not make a selection.)
2. Choose "Horizontal" or "Vertical" from the Effect: Flip submenu. The image or selected area is then flipped in its position.

*Image before and after flipping*

### 5.1.4 Rotating an image

The Rotate command allows you to rotate an entire image or selected area in any direction and to any degree. Choosing the Rotate command in the Effect menu displays a submenu of commands, that when chosen, apply an immediate effect, open a dialog box or place a line on the image:

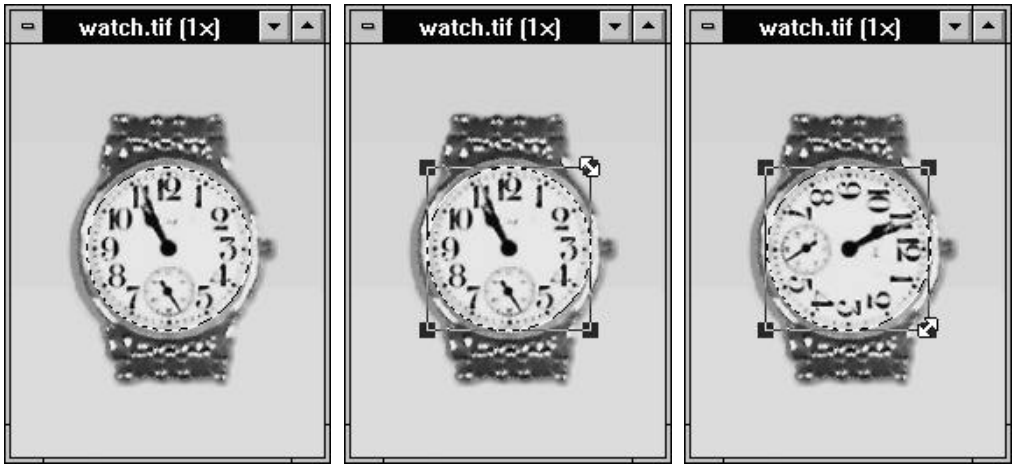
- **Left 90°** (counter-clockwise) – immediate effect.
- **Right 90°** (clockwise) – immediate effect.
- **180° –** immediate effect.
- **Freely** allows you to define the rotation of a selected area by dragging the corners of the area. (If there is no selection area this command is disabled.) – immediate effect.
- **Degree** allows you to specify the angle and direction of the rotation – opens a dialog box.
- **by Horizontal line** allows you to horizontally rotate an image to a defined line. Use this if the image has a strong horizontal feature – places a horizontal line with handles on the image.
- **by Vertical line** allows you to vertically rotate an image to a defined line. Use this if the image has a strong vertical feature – places a vertical line with handles on the image.

**Note:** *If you rotate an image by anything other than 90°, 180° or 270°, extra space is introduced around the image. This space is filled with the background color.*

*To freely rotate a selection area:*

1. Select the portion of the image to rotate.
2. Choose “Freely” from the Effect: Rotate submenu. Handles appear at each corner of the selection marquee.

3. Place your mouse pointer over a handle and drag it clockwise or counterclockwise. The selection is rotated around its center.
4. When you are satisfied with the rotation, choose "None" from the Edit: Select submenu to merge the area with the image.




*1. Select area within image* *2. Choose "Rotate: Freely"* *3. Drag handle to rotate*

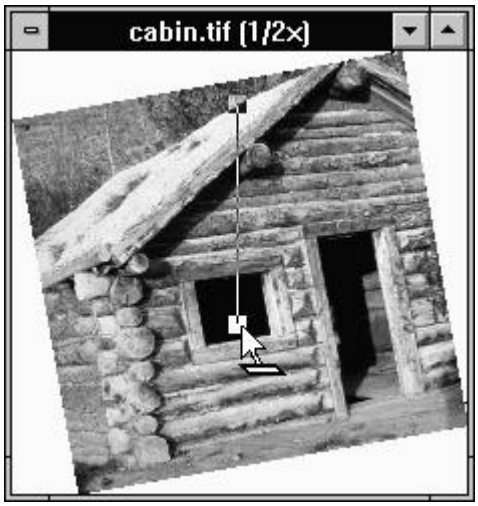
### *Rotating by horizontal/vertical line*

The rotate by Horizontal and Vertical Line commands are useful when you have an image which is not quite straight. This is often the case when you input an image with a hand-held scanner.

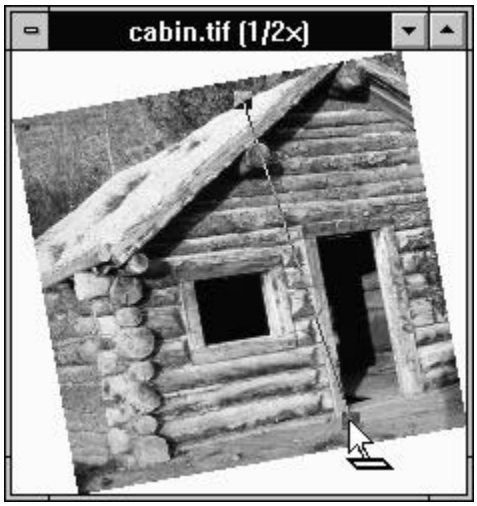
*To vertically align an image:*

1. Select the image you want to straighten.
2. Choose "by Vertical Line" from the Effect: Rotate submenu. A line, with a handle at each end, appears on the image.
3. Identify a strong vertical feature in the image and drag the closest handle to one end of this feature.
4. Drag the other handle to the other end of the feature so that the joining line now aligns along the feature.
5. Double-click on one of the handles. The image is rotated until the joining line becomes vertical.

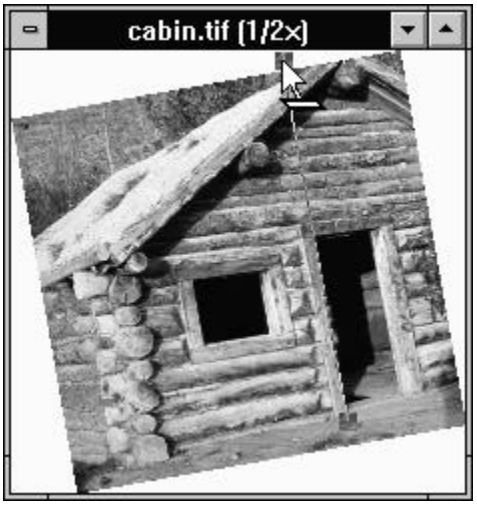
*Rotating by Vertical Line*



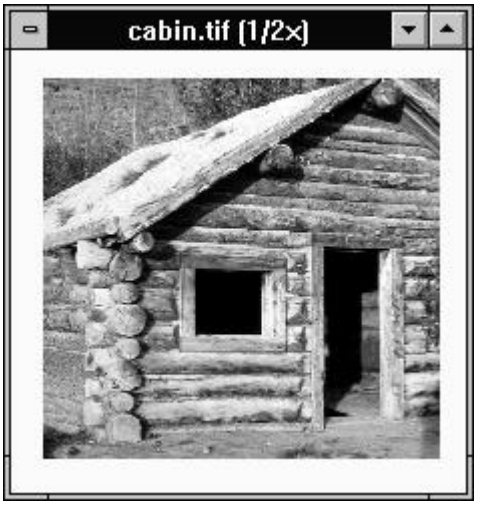

*1. Choose "Rotate by Vertical Line"*




*2. Drag a handle onto one end of a vertical feature*




*3. Drag other handle so line aligns along the vertical feature*




*4. Double-click on handle to rotate image*

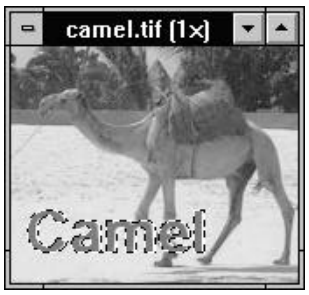
### 5.1.5 Slanting a selection area

Apart from being able to rotate and flip images or parts of images, Image Editor allows you to skew or slant selected areas of an image using the Slant command. When you perform a slant operation you can choose to slant the selected area along the horizontal or vertical plane.

*To slant a selected area:*

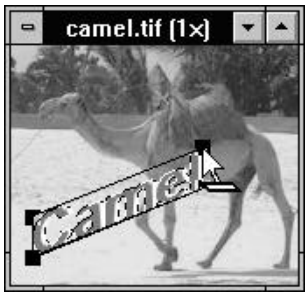
1. Select the portion of the image to slant.
2. Choose "Slant" from the Effect menu. Handles appear at each corner of the selection marquee.
3. Drag one of the handles in the direction you want to slant. (Clicking outside a handle removes the selection marquee. You can undo the action but need to reapply the Slant command.)
4. When the selection is at the desired slant, choose "None" from the Edit: Select submenu to merge the selection with the image.

**Note:** *If you slant a selected area with the Shift key held down, you can move a single handle of the area. To create a perspective effect, slant two adjacent corners of an area in opposite directions.*




*1. Select area within image*


*2. Choose "Slant"*




*3. Drag handle to slant*

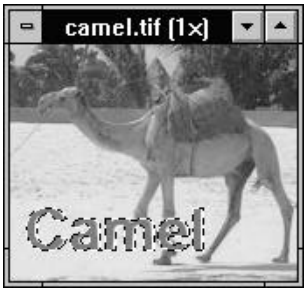
### 5.1.6 Distorting a selection area

Distort produces a similar effect to Slant except that it allows you to move each marquee handle independently and in any direction. Once you drag and release the mouse, the contents of the selected area are resized to fit the new shape. Although Distort uses a rectangular selection area, you can curve the selection area and create 3-D effects by repeatedly applying the Distort command to the same selection area.

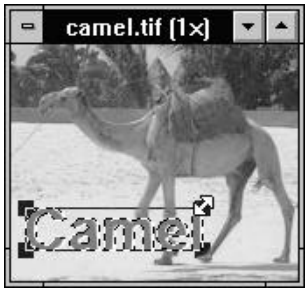
*To distort a selected area:*

1. Select the portion of the image to distort.
2. Choose "Distort" from the Effect menu. Handles appear at each corner of the selection marquee.
3. Drag one of the handles in the direction you want to distort. (Clicking outside a handle removes the selection marquee. You can undo the action but need to reapply the Distort command.)
4. When you are happy with the distortion, choose "None" from the Edit: Select submenu to merge the selection with the image.

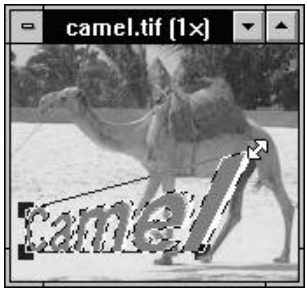
**Note:** *Holding down the Shift key as you drag each handle prevents the selection area from resizing. When the handles are in the correct position, release the Shift key and click on any handle to resize the contents.*




*1. Select area within image*




*2. Choose "Distort"*




*3. Drag handles to distort*

# 5·2 Converting images

When working with images, it is often necessary or useful to change the data type of an image, for example, from Grayscale to RGB True Color. Your choice of data type directly relates to the image's file size and quality.

By converting to a data type that supports more colors, you can take advantage of the extra colors, but the image's file size will increase. Conversely, if you don't require the number of colors supported by the current data type, convert to one that makes your image file smaller. For example, for black-and-white publications use Grayscale images, not RGB True Color.

You convert an image by choosing a target data type from the Image: Convert menu. (Some data types may not be available: these require an intermediate conversion to Grayscale or RGB True Color). After choosing the target data type, the conversion is immediate or an options dialog box appears (see table below).

**Note:** *Conversions do not change the original image but open a new, untitled image window containing a copy of the image in the new data type.*

| Source format | Can convert to: | Options |
|---|---|---|
| **Black & White** | Grayscale | ✓ |
| **Grayscale** | Black & White | ✓ |
| | Indexed 16-Color | ✓ |
| | Indexed 256-Color | |
| | RGB True Color | |
| **Indexed 16-Color** | Grayscale | |
| | RGB True Color | |
| **Indexed 256-Color** | Grayscale | |
| | RGB True Color | |
| **RGB True Color** | Grayscale | |
| | Indexed 16-Color | ✓ |
| | Indexed 256-Color | ✓ |

*Conversion paths between data types*

### 5.2.1 Converting Black & White to Grayscale

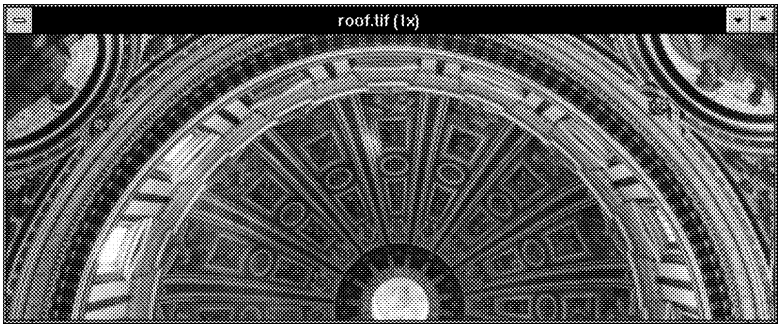
You can only directly convert a Black & White image to Grayscale. This conversion involves options that enable you to choose if, and how, the black and white pixels are converted to gray shades. If you wish to convert a Black & White image to other color data types, first convert to Grayscale, and then to the target data type.

When you choose the Convert to Grayscale command in the Image: Convert submenu, the Convert to Grayscale dialog box opens containing the following options:

***Cell size*** defines the size of the cells used to convert the black and white pixels of a Black & White image to shades of gray. The higher the number, the greater the number of gray shades introduced. For line-art images that you wish to keep as black and white, use a cell size of one. For a photo scanned with a black-and-white hand-held scanner choose a cell size from three to eight (depending on the settings of the scanner). If the resulting image shows visible grids, the cell size is incorrect.

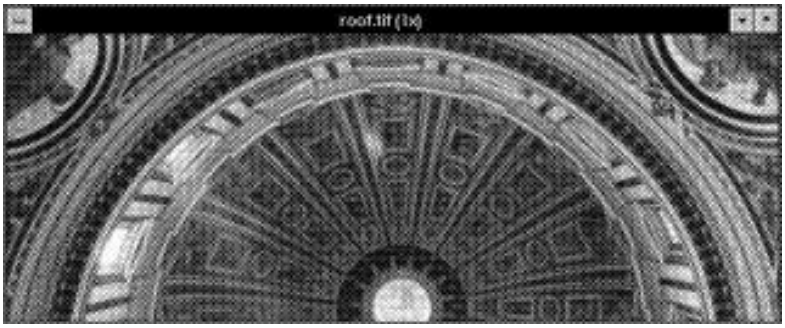
***Scale down*** defines how much the image is scaled down during conversion. A scale-down of one results in no scaling.
A scale-down of two reduces the width and height (in pixels) and resolution of the image by half. Scaling down prevents the new gray image from displaying a mosaic like effect that may be caused when you define a large cell size.

*Original Black & White image*



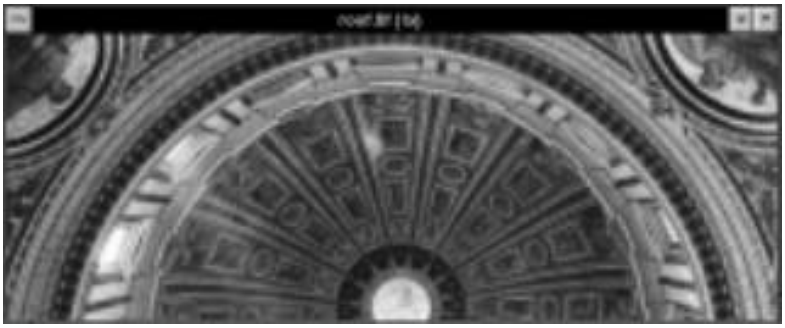

After conversion: *Cell Size 5 and Scale Down of 5.*

*(Retention of detail good, but grid pattern visible – caused by incorrect cell size)*




After conversion: *Cell Size 8 and Scale Down of 5.*

*(Transitions in tone are much smoother but detail is blurred)*



### 5.2.2 Converting Grayscale to Black & White

When you convert Grayscale images to Black & White, the original gray shades cannot be retained. To simulate them, Image Editor groups black and white pixels using a "dithering" option. Image Editor's dithering options are adequate for most situations but are particularly suited for preparing images for display on monochrome monitors.

**Note:** *You can only convert Grayscale images directly to Black & White. To convert images of other data types to Black & White, first convert them to Grayscale.*

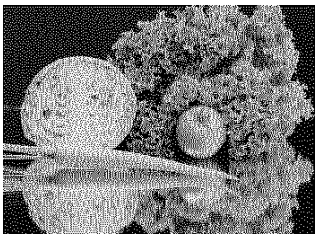
When you choose the Black & White command in the Image: Convert submenu, the Convert to Black & White dialog box opens. This dialog box provides the following options:

***Resolution*** allows you to choose the resolution of the new image. You can choose the resolution to match that of your ***Printer***, ***Display*** or ***Active Image*** or define your own. (If you select a high resolution, a very large file will be produced and the conversion may take a long time.)

***Dither*** allows you to choose a dither method. ***None*** simply maps lighter grays to white and darker grays to black. ***Pattern*** arranges pixels in square patterns to simulate gray shades. ***Diffusion*** uses a more random method to dither gray shades. The Diffusion option generally results in the best conversion.

*Original Grayscale image*

*No dither conversion*



*Diffusion dither conversion*

### 5.2.3 Converting Grayscale to Indexed 16-Color

Converting from Grayscale to Indexed 16-Color involves the same dither options as those used to convert Grayscale to Black & White. But these options control how a possible 256 gray shades are dithered with the 16 colors available in an Indexed 16-Color image. Whichever option you choose, Image Editor selects a range of 16 grays that match the grays in the original. These sixteen grays are then used to dither the original shades in the same way as when Grayscale is converted to Black & White.

### 5.2.4 Converting RGB True Color to Indexed 16-Color

When you convert from RGB True Color to Indexed 16-Color, you are converting a possible 16.7 million colors to only 16. To get the most effective result you need to decide how the 16 colors are chosen and how they are arranged (dithered) to simulate the millions of colors in the original. Image editor provides the following options to control this choice:

***Palette*** allows you to select the colors to be included in the new image's color table. ***Standard*** uses the system's default 16-color table, containing the 16 colors available on a standard VGA display. This option is most useful when you transfer images to other Windows programs or prepare them for use in a help file.

Choosing the ***Optimized*** option creates a color table that is the closest adaptation of the colors used in the image. In most cases this option gives the best conversion.

***Reserve Entries*** allows you to reserve some entries in an optimized palette. For example, if your image is largely green and blue, you may not have any black in the image, but you may need black to add text at a later time. Select the Reserve Entries ***Black & White*** option and the color table will contain greens, blues, black and white. Checking the ***8 Prime Colors*** option retains red, green, blue, cyan, magenta, yellow, black and white.

### 5.2.5 Converting RGB True Color to Indexed 256-Color

Converting True Color to Indexed 256-Color, Image Editor is faced with the same problem as converting to Indexed 16-Color. That is, how to represent several million colors with only a few. The options dialog box for this conversion contains the following palette and dithering options:

***Palette*** controls the selection of colors for the palette. ***3-3-2 (bits)*** uses the system's default 256-color (8-bit) table, based on a combination of eight (3-bit) reds, eight (3-bit) greens, and four (2-bit) blues. ***6-7-6 (levels)*** uses a palette that offers six levels (shades) of red, seven levels of green, and six levels of blue. This is the standard palette used by ZSoft Paintbrush IV Plus. ***6-6-6 (levels)*** gives the most balanced use of palette color. This palette offers six levels (shades) of red, six levels of green, and six levels of blue. This is the standard palette used by the Apple Macintosh computer. ***Optimized*** creates a palette that matches the range of colors used in the image as closely as possible and as such normally produces the best results.

***Dither*** provides you with the choice to either not dither or dither by Pattern or Diffusion. If you choose not to dither, Image Editor uses the color in the table that is closest to the color in question. (The other Dither options, Pattern and Diffusion, work in a similar manner to those described earlier for converting Grayscale images to Black & White)

**Notes:**

- *To preview an RGB True Color image on a 256-color display, select the Optimized Palette and Diffusion Dither options. This provides the best possible results. (Make sure the View Images With a Common Palette option in the Display dialog box is not checked.)*
- *To transfer an Indexed 256-Color image to another program, you should use the palette option supported by that program.*

# 6 *Painting*

*Image Editor's painting tools enable you to easily "touch-up" and enhance any kind of image. The painting tools themselves present a variety of functions from the advanced magic lamp and clone tool to more common tools like the paintbrush, eraser and text tool. This chapter introduces these painting tools, and begins by describing how to select and work with colors in Image Editor.*

# 6·1 Choosing colors

The most important part of painting is choosing the right color. Image Editor provides a number of ways to help you get this right and gives you maximum freedom in your choice of how to display and select colors. The most obvious means of doing this is with the color palette.

## 6.1.1 The color palette

The color palette contains colors you can apply to any given image. The way colors are displayed varies according to the type of image you are working on. For Grayscale images, the color palette displays shades of gray. Changing to an Indexed-Color image switches the color palette to display the 16 or 256 colors from the image's color table. For RGB True Color images, a complete range of colors is displayed in discrete cells or as a continuous spectrum.

Of the available colors in an image, two are active at any given time. These two colors, referred to as the foreground and background color, are displayed in the color squares just below the color area in the color palette. The foreground color is in the front, slightly lower and to the right of the background color.

### 6.1.2 Selecting colors with the eyedropper tool

The eyedropper tool is used to select foreground or background colors. This can be done by clicking on a color in an image or in the color palette. (Whenever you move the mouse pointer over the color palette, it changes to the eyedropper tool, irrespective of your current tool selection.)

Clicking the left mouse button selects the color under the pointer as foreground while clicking the right mouse button selects the color as the background color. When passing the eyedropper tool over an image, or the color palette, the color values of the pixel the tool is on are displayed in the left corner of the status line.

### 6.1.3 Selecting colors with the color dialog box

Another method of selecting color is to use the Foreground or Background Color dialog boxes. These can be accessed by:

- double-clicking on the eyedropper tool icon (accesses the dialog box for the highlighted color square).
- double-clicking on the foreground or background color squares; the appropriate Color dialog box opens.

When the dialog box appears, the current color is displayed on the right side. To change it, first specify the color model to use: RGB or HSB. (For more information on color models see the introductory guide) Your choice determines the function of the three slider bars in the center of the dialog box. Drag the slider bars to change the value of each individual color component. Adjustments you make are reflected in the new color area.

**Note:** *When working with Indexed-Color or Grayscale images, the selected color is replaced by the closest matching color or converted to an equivalent gray value.*

### 6.1.4 Selecting colors with the color sliders

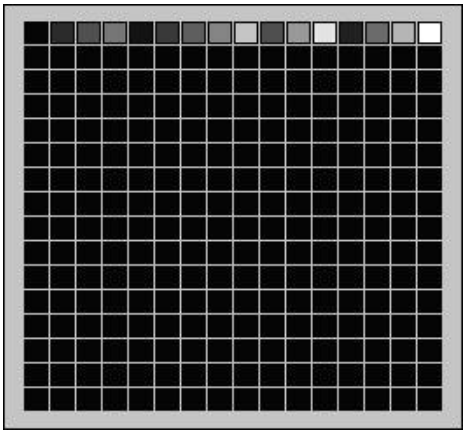

Below the color squares in the color palette are the color sliders. These display the color values of the highlighted square. Moving the slider arrows changes these values, and thus the color, of the color square currently highlighted. (You can change which color square is highlighted by clicking on the non-highlighted one.) The values are RGB or HSB depending on the model you have chosen in the Select Color dialog box (see p.89).

# 6·2 Editing an image's color table

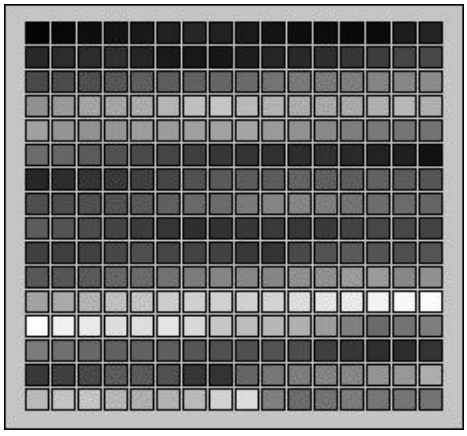
The colors in an Indexed-Color image are recorded in a color table. To view the color table, choose the Color Table command in the View menu (this command is disabled when the active image is not Indexed-Color). From this dialog box you can change the colors in the table, thereby changing the color composition of the image.

To change the color contained in a cell, click on the cell. The Select Color dialog box appears. Once you have chosen the new color, click OK. The new color is inserted into the color table. To return to the image, click OK in the Select Color dialog box, the new color table is stored and the image now reflects any changes made.

**Note:** *Use this command to globally change a single color in an image, e.g. from white to black.*



*Color table of an Indexed 16-Color image*



*Color table of an Indexed 256-Color image*

### 6.2.1 Loading and saving color tables

Image Editor allows you to load and save color tables, enabling you to optimize a color table for one type of image, and then apply the same color table to other images. When you load a new color table, the old table is discarded and the pixels in the image assume the values of the new table.

During installation of the program you had the opportunity to install some pre-defined color tables. (Color tables appear with a PAL extension.) These color tables are intended to be loaded into Grayscale images that you have converted to Indexed 256-Color. Experiment with them or create your own to achieve the best possible results.

**Note:** *You can only load color tables containing 16 colors into Indexed 16-Color images. Likewise, color tables containing 256 colors can only be loaded into Indexed 256-Color images.*

# 6·3 Filling an area with color

One of the ways to alter the contents of an image or selected area is to "fill" it with a color or other image data. When you fill an image you can control exactly how the fill takes place and what is used to fill the area. To perform a fill, choose the Fill command in the Edit menu. The Fill dialog box opens providing the following options:

***Clipboard Data*** fills the area with image data from the clipboard. If the area is larger than the contents of the clipboard, the data is tiled to fill the area. If the area is smaller, the clipboard image is cropped. Checking the ***Start From Selection*** option places the clipboard image's top left corner at the top left corner of the selected area (or top left corner of the bounding box of a non-rectangular selection area). When unchecked, or when there is no selection, the first copy of the clipboard image is pasted in the top left corner of the active image; subsequent copies are tiled to the right and below it, until the image or selected area is filled. (If you are filling several areas in an image and you want the clipboard images to align, do not check this option.)

**Note:** *To put a large clipboard image into a small area and be able to choose which part appears in the image, use the Into Selection command in the Paste: Edit submenu (see p.36).*

Selecting the ***Foreground to Background*** or ***Background to Foreground*** options enables the ***Gradient Fill Style*** options at the bottom of the dialog box. The three options, ***Linear***, ***Rectangular*** and ***Elliptical***, set the basic gradient pattern that will be used in the operation. How this pattern is created depends on how you define the area to fill.

*To use a gradient fill:*

1. Select the image, or area, you wish to fill. (Gradient fills can only be used in Grayscale or RGB True Color images.)
2. Choose "Fill" from the Edit menu.
3. Select the ***Foreground to Background Color*** option. The Gradient Fill Style box is enabled.
4. Click on the ***Linear*** option.
5. Click OK. The dialog box closes and the mouse pointer changes to the fill pointer.
6. Click on the point at which you want the fill to start changing from the foreground color and drag your mouse to the point where you want it to reach the background color. Release the mouse button to fill the selected area. Any area before the start point and after the end point is filled with the foreground and background colors respectively.(If you have created a selection area, only the area within the selection is filled.)

**Notes:**

- *The gradient fill option is modal, that is, you can repeat the fill until you deselect the fill tool. This allows you to experiment with different effects as well as being able to change the foreground or background colors. (If you are filling a selection area the selection area is not floating.) To end the fill, press the Esc key, change tools or choose a new menu command.*
- *When using the rectangular or elliptical option, holding down the Shift key as you draw produces a square or circle fill.*


*Sample gradient fills, from left: Linear, Rectangular, Elliptical*

### 6.3.1 Using Clear and drag-and-drop to fill

The quickest way to fill an image is to choose your fill color as the background color and then use the Clear command in the Edit menu or press the Delete key. This fills the image, or selected area, without the need to access the Fill dialog box.

If you wish to use an existing image as the fill, you can copy it to the clipboard and then paste it into another image. Alternatively, simply drag an image selection from one image (with the F key held down) and drop it onto another (see p.38).

# 6·4 Using the painting tools

Image Editor comes equipped with a number of tools that allow you to accurately paint and touch-up areas of an image. How you use these tools depends on the tool selected and the operation you wish to perform.

Select a tool by clicking on the appropriate icon in the tool bar. (When you place your mouse on an image the mouse pointer changes to reflect the tool you are currently using.) To apply the tool, move the tool to the point on the image where you want to start and press the left mouse button. The effect of the tool continues for as long as you hold the mouse button down.

Most of the tools provide options that you can check or change by double-clicking on their icons in the tool bar. Of the seven painting tools three, the paintbrush, airbrush, and line tool, provide the same options, while the magic lamp, clone, eraser and text tool provide their own unique options. This section describes the characteristics of each.

**Note:** *If you have created a selection area, the tools are only applied to the area within the selection. Use selection areas in this way to restrict the parts of the image to which enhancements are applied, protecting the rest of the image from inadvertent changes.*

### 6.4.1 Selecting brush type and size


Irrespective of which painting tool you wish to use, you should first decide on the type and size of brush to use. Do this by double-clicking on the brush button at the top of the color palette. This opens the Select Shape dialog box in which you can choose from six different brush shapes and twenty-four sizes. Experiment with the various options to find the one most suited to your particular painting operation.

**Note:** *You can also increase or decrease the brush size by moving the slider (next to the brush button) up or down.*

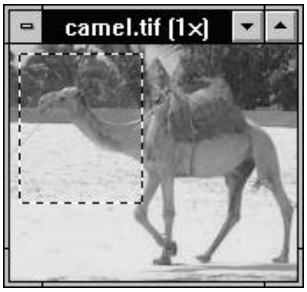
### 6.4.2 Using the magic lamp

The magic lamp is not strictly a painting tool in the sense that it does not "paint" over the existing image with a selected color. It is used to enhance areas of an image by adjusting the existing pixel values in the area. It provides five functions: blur, sharpen, darken, lighten and smudge. You choose the function and the strength of its effect in the Magic Lamp dialog box that appears when you double-click on the magic lamp icon in the tool bar.

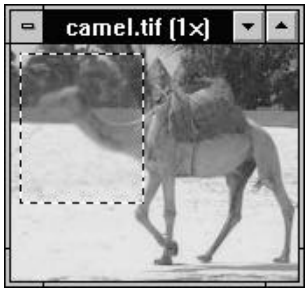
**Notes:**

- *The magic lamp can only be applied to Grayscale and RGB True Color images.*
- *Depending on the function selected, you can strengthen or weaken the effect by dragging the Level slider to the left or right. A higher value applies a stronger effect than a lower value.*
- *When you apply a selected function to an area, the tool uses the shape and size of the current brush each time you press the left mouse button. Drag your mouse to perform the effect over a larger area. Click repeatedly to reapply and increase the effect on a specific area. (Smudging requires you to drag the tool, as it smudges color from one area into another.)*

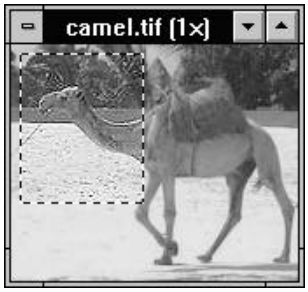
*Examples of magic lamp effects*



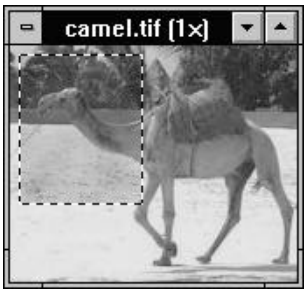

*Original image*



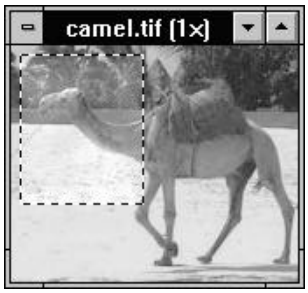

*Blurring*



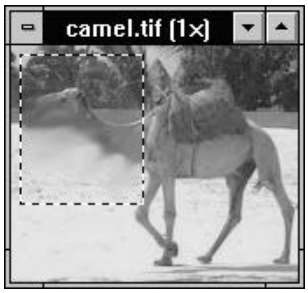

*Sharpening*




*Darkening*




*Lightening*




*Smudging*

### 6.4.3 Applying color with the paintbrush

The paintbrush applies color to parts of an image. Click the left mouse button to apply the foreground color or the right mouse button to apply the background color. (The size and shape of the applied color are determined by the current brush settings.) If you drag the paintbrush around, you draw a freehand line.

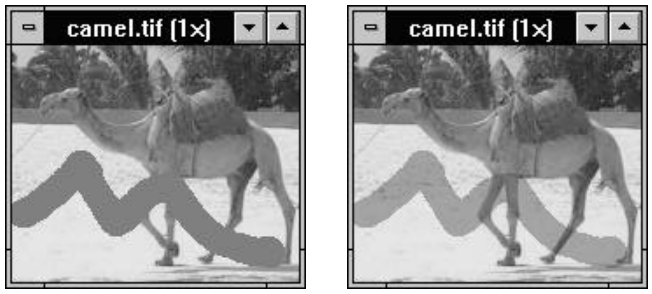
Double-clicking on the paintbrush icon in the tool bar opens the Paintbrush dialog box containing the following options:

The **Factor** combo box allows you to choose the color components that are applied to the active image.

- **HSB** replaces any parts of an image, to which you apply the painting tool, with the applied color.
- **Hue and Saturation** replaces the hue and saturation of pixels with those of the applied color but retains their brightness. For example, if you convert a Grayscale image to RGB True Color, you can use this option to colorize areas of the image.
- **Hue only** changes the hue of pixels to the hue of the foreground color. Use this to change the color of areas in color images.

The **Soft edge** option blends the edges of painted areas with the original image by feathering them.

***Note:*** *This dialog box can only be accessed if the active image is Grayscale or RGB True Color.*




*Painting with all a color's components (image on the left) and painting with just the Hue and Saturation of a color (image on the right)*

### 6.4.4 Cloning parts of an image

Cloning allows you to copy part of an image to another area in the same image or to another image of the same data type.

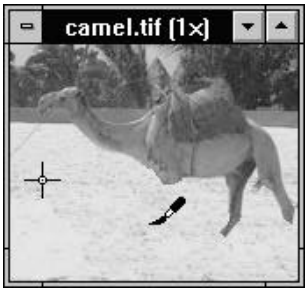
*To clone part of an image:*

1. Click on the clone tool icon.
2. Hold down the Shift key and click with the left mouse button over the area you wish to clone. (This area is then marked with a cross-hair and the mouse pointer changes to the clone pointer.)
3. Drag your mouse across another part of the image to begin painting. The cross-hair changes to a square indicating the area you are cloning and as you paint you replace the area with whatever the clone square passes over. (The size and shape of the area painted are determined by the current brush settings.)

   After painting, the cross-hair's position is determined by the ***Continue Drawing*** option in the Clone dialog box (accessed by double-clicking on the tool icon). With this option unchecked, the cross-hair returns to its original point; with it checked, the cross-hair remains where you left it, allowing you to take a rest while cloning a large area. The Clone dialog box also allows you to control transparency and select a soft edge to blend the edges of your cloned areas with the image.

**Note:** *Indexed-Color and Black & White images cannot be cloned.*

*Cloning an image*

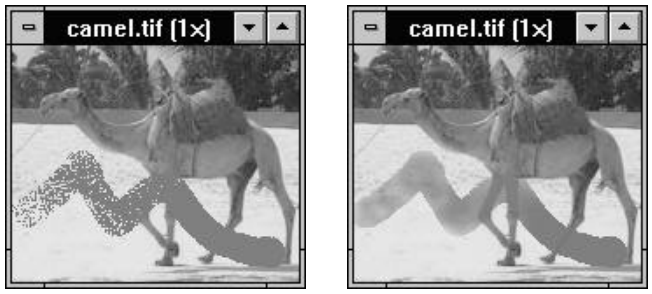


### 6.4.5 Using the airbrush

The airbrush tool produces a sprayed area over the image. Clicking the left mouse button on the image applies the foreground color while clicking the right mouse button applies the background color. (The size and shape of the airbrush are determined by the current brush settings.) When you use the airbrush, the color gradually builds up as you drag back and forth over an area. Staying on one point and keeping the mouse button depressed increases the density of the color on that point.

Double-clicking on the airbrush icon opens the Airbrush dialog box. This dialog box provides the same options as the Paintbrush dialog box. If you use the ***Soft Edge*** option, color is sprayed like a fine mist. If this option is not selected, color appears more like grains of sand.

***Note:*** *This dialog box can only be accessed if the active image is Grayscale or RGB True Color.*




*Painting without a soft edge (image on the left) and with a soft edge (image on the right)*

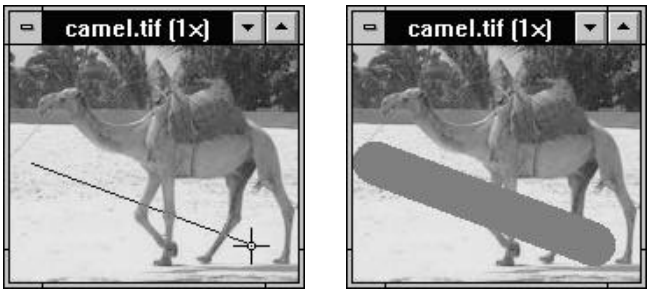
### 6.4.6 Painting straight lines

Use the line tool to paint straight lines in an image. Dragging with the left mouse button applies the foreground color while dragging with the right mouse button applies the background color. (The width and ends of the line are determined by the current brush settings.)

To draw a line, click on the point at which you want the line to start and drag to the point where you want it to end and release the button. Pressing the Shift key while drawing a line constrains it to an angle of 0°, 45°, or 90°. Double-clicking on the line icon opens the Line dialog box which contains the same options as the Paintbrush dialog box (see p.97).

***Note:*** *This dialog box can only be accessed if the active image is Grayscale or RGB True Color.*

*Painting a straight line*

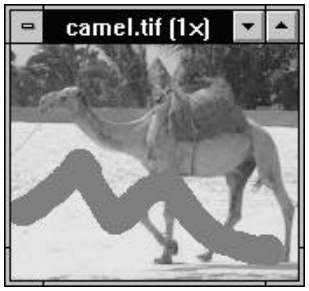


### 6.4.7 Erasing colors

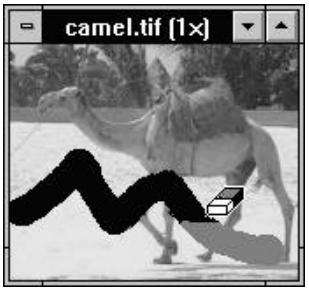
The eraser tool replaces areas of an image with the current background color. You can choose to replace all the colors that the tool passes over with the background color or just replace the foreground color only. (Use the left mouse button to erase, if you use the right button there is no effect.)

*To use the eraser tool:*

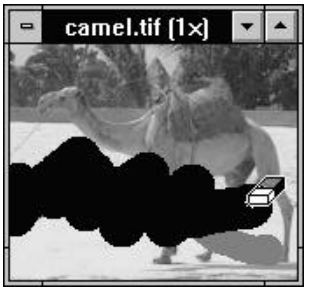
1. Select the image or area you want to erase.
2. Choose the color you want to change as the foreground color and the replacement color as the background color.
3. Double-click on the eraser icon in the tool bar. The Eraser dialog box appears.
4. Select the ***Erase Foreground to Background Color*** option and click OK to close the dialog box and return to your image.
5. Drag the eraser across an area in the image containing the foreground color. The foreground color in the area changes to the background color without affecting any of the other colors.




*Original image with foreground color (gray)*




*Erasing foreground color to background (black)*




*Erasing all colors to background (black)*

### 6.4.8 Adding text to an image

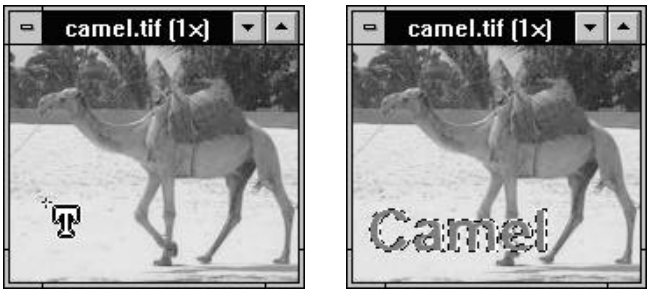
The text tool allows you to add text to an image. In addition to entering text in a variety of fonts and styles, the text tool also provides options to create text with a 3-D shadow as well as use anti-aliasing to makes the edges of text appear smoother.

*To add text:*

1. Click on the text tool icon in the tool bar.
2. Click on the area in the image where you want your text to start. The Text dialog box appears.
3. Enter the text to insert in the ***Text*** entry box at the top of the dialog box. The amount of text entered is limited by the size of the entry box. To start a new line press Ctrl + M (or Ctrl + Enter).
4. Select the size and style for the text. Set shadow and color effects as desired.
5. Click OK. The dialog box closes and the text appears on the image as a floating selection filled with the selected color. The mouse pointer also changes to the rectangular selection tool to allow you to re-position the text.
6. To combine the text with the image choose “None” from the Edit: Select menu.

**Note:** *Anti-aliasing is only available for True Color and Grayscale images.*

*Adding text to an image*



# 7 *Enhancing images*

*Image editing would not be complete without tools to enhance images. This chapter explains the use of the Image Editor enhancement tools, beginning with a look at the commands for adjusting and correcting color. The final section of this chapter describes the wide range of special effects and filters that can be used in conjunction with these tools to introduce new elements into your imaging work.*

# 7·1 Adjusting and correcting color

Some of the more common commands you will use when working with images are concerned with adjusting and correcting the color values of an image. This is particularly important when the colors recorded during a scanning process are incorrect or you wish to highlight or darken particular parts of an image. In Image Editor the commands that control this type of operation, Tone Mapper, Tone Adjustment, Brightness & Contrast, Hue & Saturation, Invert, Level Adjustment and Optimize can all be found in the Image menu.

In most instances these commands can be applied to selected areas or to entire images. However, some of the commands are not applicable to some data types, or they cannot be applied to selected areas in certain data types.

**Note:** *If you are not familiar with the terminology used in this chapter refer to the Glossary in the ImagePals introductory guide.*

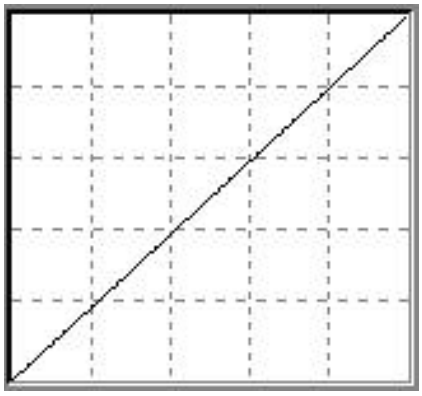
## 7.1.1 Understanding mapping curves

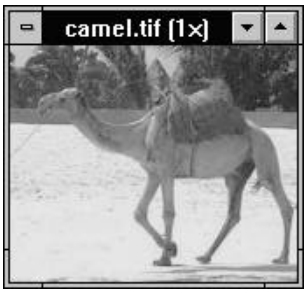
When you select the Tone Mapper or Tone Adjustment commands, a dialog box appears with a graph representing the color values of the pixels in the active image. The horizontal (x) axis represents the “input” value, or original value from black at the left (0) to white at the right (255). The vertical (y) axis represents the “output”, or remapped value.

**Note:** *For RGB True Color images the right side of the graph can also represent a primary value, red, green, or blue, depending on the channel selected in the channel combo box.*

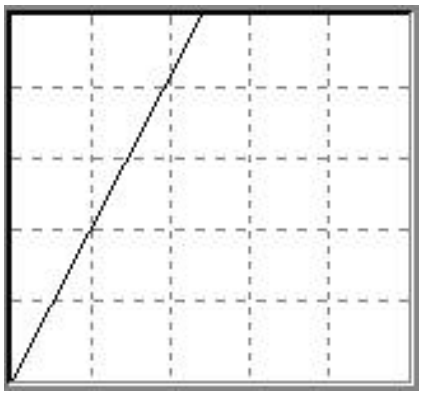
When you view the graph, a default mapping curve (line) bisects the graph on the diagonal. This indicates that for each “input” value the “output” value is the same (i.e. y=x). By altering this curve you can change the color values of pixels as follows:

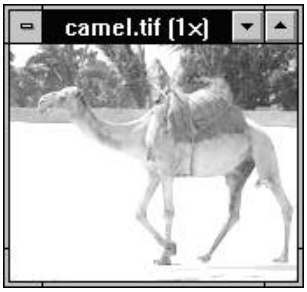
*Normal mapping curve (y=x) and image*



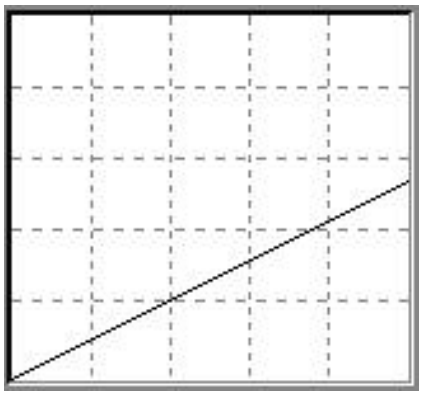


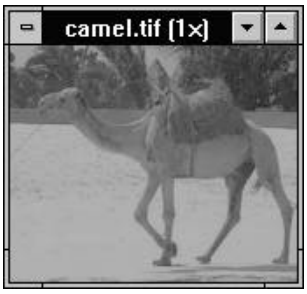

*New mapping curve (y=2x) and image: All gray values over 128 become white.*






*New mapping curve (y=½x) and image: All values are mapped onto the range from black to mid-gray (128).*





### 7.1.2 Adjusting image tones

The Tone Adjustment command in the Image menu opens the Tone Adjustment dialog box in which you can adjust the highlight, midtone and shadow areas in an image. Highlight areas are those areas that appear brighter or lighter than others. Shadow areas are dark areas and the midtone areas are somewhere in between.

**Note:** *Adjusting these options affects the color values of all pixels in an image or selected area.*

In the Tone Adjustment dialog box you normally adjust the overall tones in an image, but for RGB True Color images, you can also adjust the three color channels, Red, Green and Blue individually. How best to adjust the color values of an image is totally dependent on the type of image you have. Try experimenting by moving the respective slider controls and clicking on the Preview button to see the effect on the image. The following should give you a good idea of what to expect when you use these controls:

Changing the ***Highlight*** enables you to increase or decrease the brightness of the brighter pixels in an image. Dragging to the right (a positive percentage) increases this brightness, whereas dragging to the left (a negative percentage) decreases the brightness.

Changing the ***Midtone*** allows you to adjust midtone pixels without affecting the highlights and shadows too much. Drag to the right to lighten the midtones; to the left to darken them.

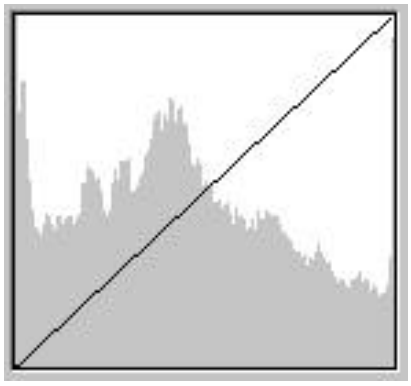
Changing the ***Shadow*** lightens or darkens the darker pixels in an image. Drag the slider to the right to lighten the shadows or to the left to deepen them.

The graph in the Tone Adjustment dialog box displays an added feature: the histogram. This chart graphically represents the distribution of color values within an image. The number of pixels with a particular color is indicated by the vertical "y" axis. As all colors in the image are shown within this graph, the distribution of some may be less apparent than others, e.g., light pixels in a dark image or vice versa. In such cases increase the ***Histogram Scale Factor*** to magnify those color values with fewer pixels. (This only affects the display of the histogram.)

Sometimes when you access the Tone Adjustment dialog box, you will see the Auto button enabled. This indicates the image has no black (x=0, y=0) and/or white (x=255, y=255) pixels. In such cases clicking the Auto button redraws the mapping curve to map the original values onto the complete range of colors from black to white. This improves the contrast in an image and is recommended (for most images) before you start adjusting any color values.

**Note:** *If you have selected an area of the image, only the area within the selection is affected.*

*Sample histogram*



### 7.1.3 Using the tone mapper curve

The previous section discussed how to change the color values of pixels within an image by using the Tone Adjustment dialog box. At times this may be too general and not specific enough for your needs. In such cases use the Tone Mapper to apply finer adjustments to more specific ranges of color values.

**Note:** *This command is primarily aimed at calibrating your input and output devices. As such you will find it is provided as an extension to both the input/scanning process as a post processing option (see p.131) and the printing process. To aid in this calibration you can also load and save curves for subsequent use.*

When you display the Tone Mapper dialog box you only see a graph and mapping curve. You can adjust this curve directly by dragging your mouse over the graph or by selecting a predefined enhancement using the Enhance Button.

**Note:** *Each time you select an enhancement option the enhancement is applied to the default curve (i.e x=0 y=0).To apply different enhancements sequentially check the* ***Accumulatively*** *option. This applies each enhancement to the existing curve.*

After adjusting the mapping curve you may feel the curve is not “smooth” enough – simply click on the Smooth button and it smoothes out automatically. You can also use the Smooth button to reduce the effect of a new tone curve as it makes the curve tend towards the default.

You may have noticed that the color value graph includes a 5×5 grid pattern. Each square block within that grid represents a possible 51 consecutive color values (on a scale from 0 to 255). If you want to edit only those values within a block or you wish to have more restrictions on your adjustments click on the ***Show Control Points*** option. This places handles at each point where the mapping curve intersects the grid. After adjusting the control points you can apply other enhancements or smooth the curve, but the control points will disappear.

**Note:** *Points to remember: the left area represents darker pixels; the right lighter. Raising the curve lightens color values; lowering the curve darkens color values.*

### 7.1.4 Changing brightness and contrast

The Brightness & Contrast command in the Image menu allows you to adjust the lightness and darkness as well as the difference between areas of light and dark colors in an image or selection area. Use this when you want to perform a general adjustment to the brightness and contrast of pixels in an image.

**Note:** *For RGB True Color images you can also edit the individual color channels, Red, Green or Blue.*

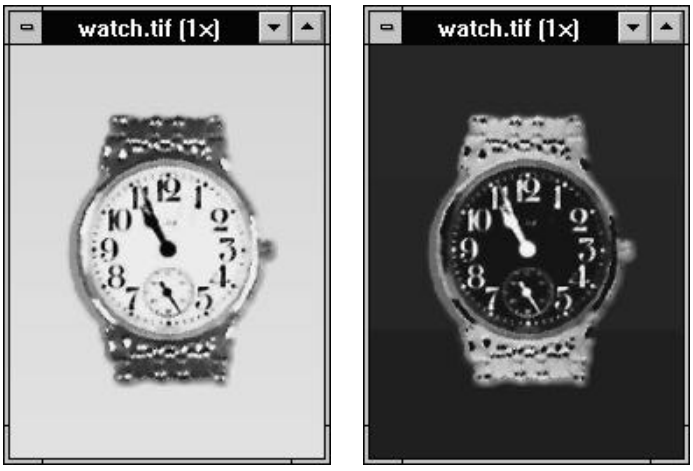
### 7.1.5 Changing hue and saturation

The commands mentioned so far deal primarily with the lightness and darkness of pixels. Sometimes you may only want to change the color (hue) or purity (saturation) of colors. To change the hue and saturation of an image choose the Hue and Saturation command in the Image menu, the Hue and Saturation dialog box opens. For best results experiment by moving the sliders and previewing your changes.

### 7.1.6 Inverting colors

The Invert command in the Image menu reverses the colors in an image. If your image has shades of black, they are inverted to reflect shades of white. For color images each pixel changes to its complementary color (e.g. blue changes to yellow).

*Image before and after inverting*

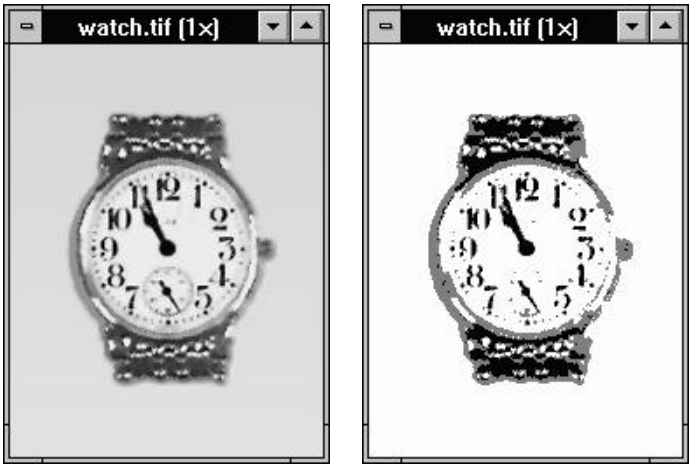


### 7.1.7 Adjusting the number of displayable colors

The Level Adjustment command allows you to reduce the number of gray or color shades in an image or selected area. This is useful when you want to reduce the number of colors in an image to enable a compression scheme to compress the image more, or to create special effects.

**Note:** *Unless you are using a well calibrated monitor with a True Color display driver, you may not notice any change in images when you select higher numbers of levels (up to 64). But when you output the image the changes may be more apparent.*

*Image before and after reducing the number of displayable colors*



### 7.1.8 Optimizing an image's color

The Optimize command attempts to generate the best possible color for an image or selected area by redistributing the pixels across the full range of gray or color values. This effect will vary from one image to another, depending on the original distribution of the gray/color values. In general, optimizing pixel values will make detail in the darker shadow areas more apparent.

One good way to understand the process of optimization is to view the histogram of an image (choose the Tone Adjustment command) and then apply the optimize command. This time when you view the histogram of the image the color values will be distributed throughout the image.

# 7·2 Applying special effects

Image Editor provides different commands that can be used to enhance images and create special effects. You can apply these commands to entire images or just to selected parts. However, it is only possible to apply them to RGB True Color and Grayscale images. If you wish to apply special effects to other image data types, first convert them to Grayscale or RGB True Color.

### *Blurring images*

The Blur command in the Effect menu allows you to reduce the contrast of pixel values in an image to create a softer image. Images can be blurred in three ways: Slightly, More, and Heavily. To blur an image more selectively, use the magic lamp blur option. This has the same effect as the Blur commands except that you perform the operation on a small area rather than the entire image or selected area.

*Image before and after blurring*

### *Sharpening images*

The Sharpen command in the Effect menu increases the contrast between light and dark pixels in an image. This is essentially the opposite of blurring an image. Images can be sharpened in three ways: Slightly, More, and Strongly. To sharpen an image more selectively, use the magic lamp sharpen option. This has the same effect as the Sharpen commands except that you perform the operation on a small area rather than the entire image or selected area.

*Image before and after sharpening*

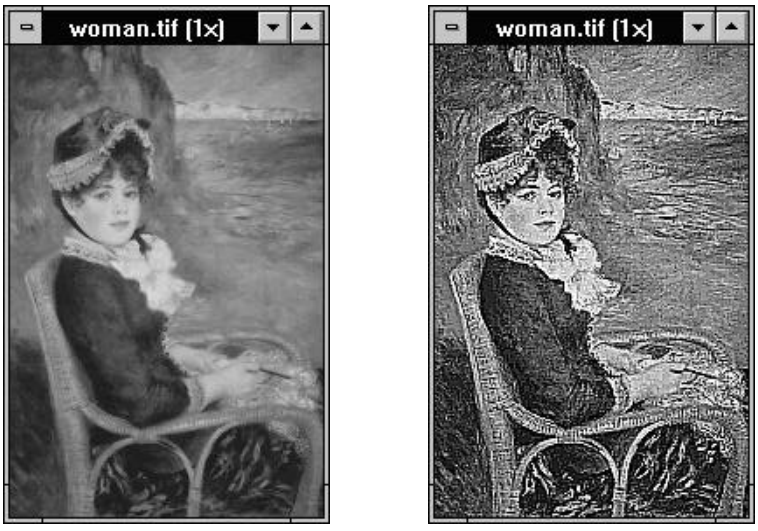
### *Removing "noise" from an image*

"Noise" in an image refers to stray pixels that are significantly different in color from surrounding pixels. For example, a black pixel appearing in a predominantly white area. (This often happens when scanning poor quality images.) Choosing the Despeckle command in the Effect menu clears up these stray pixels and blends them into the background color. Larger areas of color, different from surrounding areas, have their edges softened slightly.

### *Emphasizing the edges of an image*

An edge in an image is defined as the parts of an image where significant changes in color occurs. The Emphasize Edges command in the Effect menu outlines such changes in color, effectively increasing the contrast along edges by making them harder and more sharply defined.

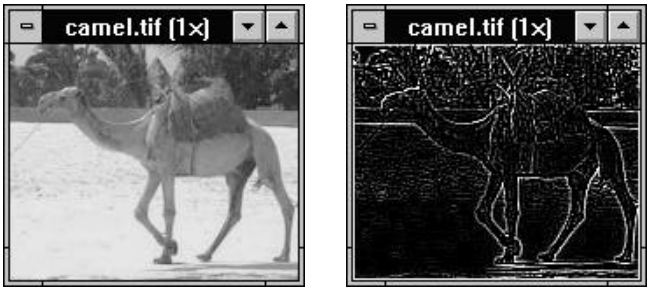
*Image before and after emphasizing edges*



### *Marking the edges of an image*

The Find Edges command in the Effect menu differs from the Emphasize Edges command in that it inverts the edges of an image and obscures the rest of the image with black. The color of the lines varies depending on the image format you are working on. Grayscale images produce lines of white and varying shades of gray. RGB True Color images produce either white or colored lines.

*Image before and after find edges*




**Note:** *Inverting an image you have applied "Find Edges" to creates a "pencil-drawn" effect.*

### *Adjusting an image for video*

The Adjust for NTSC Preview command in the Effect menu allows you to see an image as it would appear when viewed on an NTSC device. This is particularly useful when you want to know how an image will look when it appears in a video sequence of a video editing program.

**Note:** *Depending on the image and your current display mode, using this command may not produce any visible effect.*

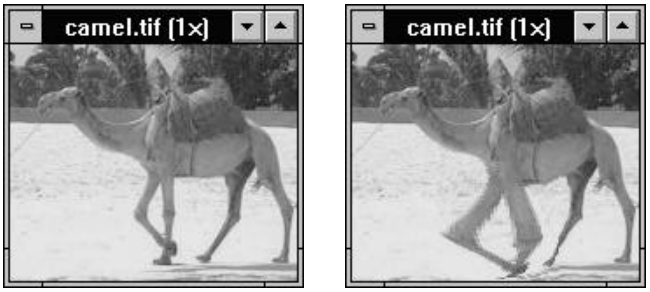
### *Warping an image*

Warping is a method of distorting a Grayscale or RGB True Color image using a grid (or mesh) based pattern. This grid is visible on a sample image that appears in the Warping dialog box, accessed by choosing the Warping command in the Effect menu. In this dialog box you can define the size of the grid squares, quality of the warp and whether or not to show the control points that appear at grid intersections.

To warp an area, click on a control point (or at a grid intersection if the control points are hidden) and drag it. (You can only drag within squares bordering the control point selected.) When you release the mouse, the grid redraws to accommodate the new position. To see the effect on the sample image, click the Testing button. (If you want to see how the effect looks on the actual image, click on the Preview button.)

**Note:** *In most cases checking the **Good** option for Quality Control will produce more than adequate results. If you want even better results, check the **Better** option. This does however require more time to perform the effect.*

*Image before and after warping*



### *Custom Filter*

Many of the effects provided by Image Editor work by regenerating a pixel value based on its original value and the value of its surrounding pixels. The Custom Filter command allows you to create your own effects in a similar way using a 5 by 5 pixel matrix.

*To create your own filter:*

1. Select the image you want to apply the filter to.
2. Choose "Custom Filter" from the Effect menu. The Custom Filter dialog box opens.
3. In the ***Symmetry*** combo box, select one of the following:

- ***No*** – this provides no symmetry.
- ***Horizontal*** – selecting this option duplicates the value in the horizontally opposite cell.
- ***Vertical*** – selecting this option duplicates the value in the vertically opposite cell.
- ***4-Way*** – this option duplicates values in the three cells that form the other corners of a square around the center.

4. Enter values in the matrix cells. The cell in the middle of the matrix represents the pixel whose value is going to be regenerated. The surrounding cells represent the surrounding pixels. (The ***Divided by*** value changes to show the total value of all the cells.)
5. Change the ***Divided by*** value to affect the overall tone of the image. The higher the value, the darker the image; the lower the value, the lighter the image. This value automatically adjusts as you change other options to retain the overall tone (optional).
6. Check the ***Invert*** option to invert the gray/color values of the image.
7. Click OK. The filter is applied to the image.

**Note:** *You can only create custom filters for use with RGB True Color and Grayscale images. Once created you can then save them for future use or editing.*

***Changing your wallpaper***

Although not strictly an effect, the Set as Wallpaper command in the Effect menu is a useful feature that allows you to make any BMP file the current Windows wallpaper. (This command is disabled if the active image is not BMP.) When you choose this command, you have the choice of either tiling the image or centering it. Once chosen, the wallpaper is changed immediately. If you the image appears too big or too small, use the Resample command in the Image menu (see p.71) to resize the image accordingly.

### 7.2.1 The Special Effects command

Apart from the above filters and effects, Image Editor also provides a number of additional options in the Special Effects dialog box (opened by choosing the Special Effects command in the Effect menu). The kind of effect that can be applied depends on the data type of the active image, e.g. for RGB True Color images you can choose from a maximum of 15 effects. To perform an effect, simply choose it from the Effect combo box. The effect is immediately reflected in the sample images at the bottom of the dialog box. (If you want to see how the effect looks on the actual image, click on the Preview button.) The following section describes each of the effects available in the Special Effects dialog box:

### *Average*

The Average effect recalculates the value of a pixel in an image by averaging its value with the values of the surrounding pixels. By moving the slider in the ***Factor*** group box you can specify the number of pixels with which each pixel is averaged. For example, a square size of 4 pixels defines a 4×4 cell containing 16 pixels to be used for calculating the average pixel values. The averaged value then replaces the original value of the pixel resulting in a softer image with smoother transitions in color.

### *Blast*

The Blast effect is only available for RGB True Color images and simulates the effect of a strong cold wind. This causes the image or selected area to develop icicles. Use the direction options to show the wind blowing to the left or right, and the slider to increase or decrease the intensity of the wind.

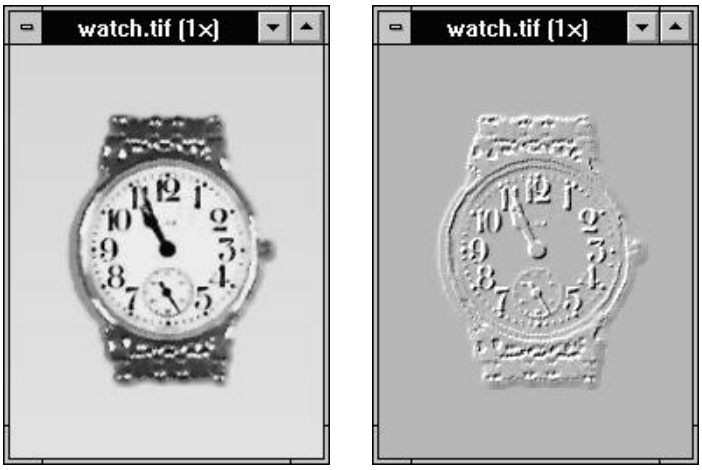
### *Cool/Warm*

The Cool and Warm effects are only available for RGB True Color images. They work by enhancing the hue of pixels containing particular color values. Increasing the ***Level*** leads to a corresponding increase in the particular hue values – making the images appear “cooler” or “warmer”. The Cool effect enhances the hue of pixels with a blue or cyan component while the Warm effect enhances the hue pixels with a red or yellow component.

### *Emboss*

The Emboss filter makes an image appear to be "raised" or "stamped" from paper of a particular color. In the ***Factor*** group box you can select this color as either the current foreground or background color. You can also define how deeply the image is stamped by moving the slider to the right; to make the image appear raised, move the slider to the left.

*Image before and after embossing*




### *Facet*

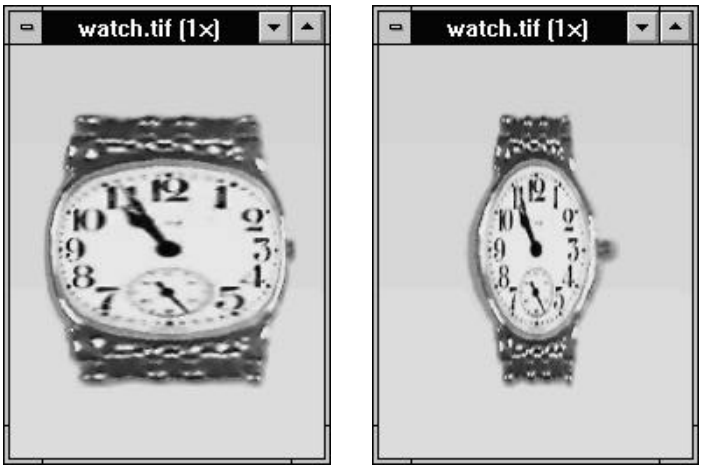
The Facet command breaks an image up into squares which are then "shifted" in a random order. To control the size of the squares, use the ***Square Size*** slider. The ***Shift Value*** slider changes how the squares are moved around the image.

### *Fat/Thin*

Selecting the Fat option distorts an image out to the sides, effectively making the center of an image appear fatter. The higher the ***Level*** the greater the distortion. The Thin option works in the opposite way by squeezing the image in from the sides to make the center of an image appear thinner. Again, the higher the Level the greater the distortion.

**Note:** *For best results ensure that your subject is in the center of your image or selected area.*

*Image made fatter (on the left) and thinner (on the right)*

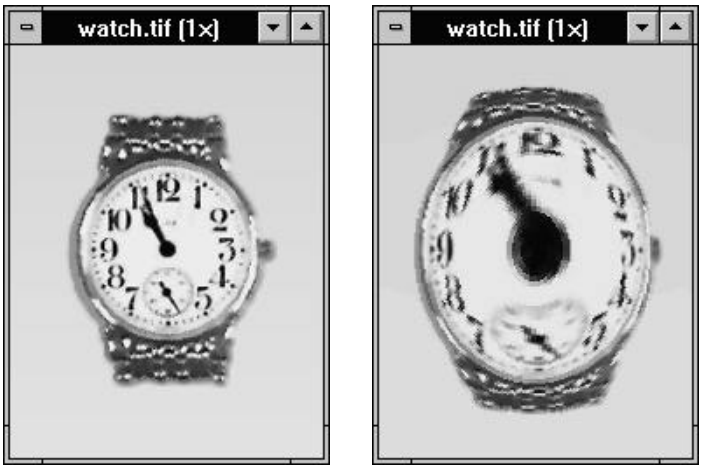


### *Fish Eye*

The Fish Eye effect creates a convex circle in the center of an image or selected area. This results in a distorted 3D effect which is controlled by the slider bar.

**Note:** *For best results ensure that your subject is in the center of your image or selected area.*

*Image before and after applying the fish eye effect*




### *Mosaic*

This filter breaks an image into blocks containing pixels of the same gray/color value. (Use the slider to specify the size of the blocks.) The pixels within each block are averaged together to produce the color value for all the pixels in the block. This is similar to the technique some television companies use to obscure the faces of people who wish to remain anonymous.

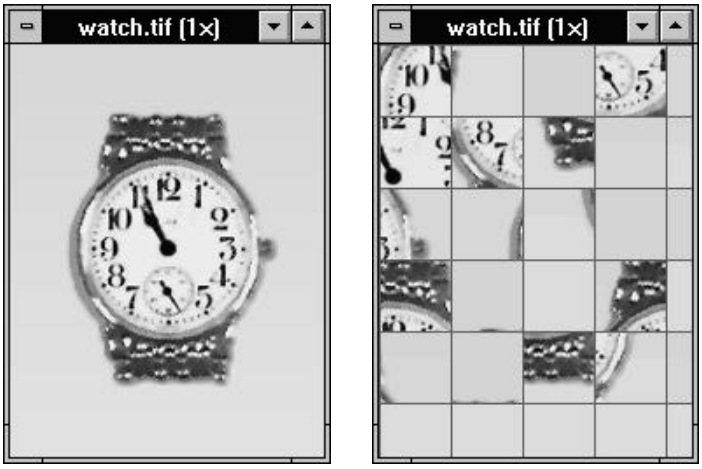
### *Motion Blur*

Using this effect creates the appearance that the image is moving. This effect is commonly produced in photographs showing people and objects moving at high speed. Changing the ***Angle*** changes the direction of the movement while the ***Moving Offset*** slider allows you to define how much the image moves by.

### *Puzzle*

The puzzle effect divides an image into a grid. The sequences of the grid are then randomly rearranged. The size of the squares in this grid is determined by the slider. Each square is surrounded by a border which takes its color from the current background color.

*Image before and after applying the puzzle effect*



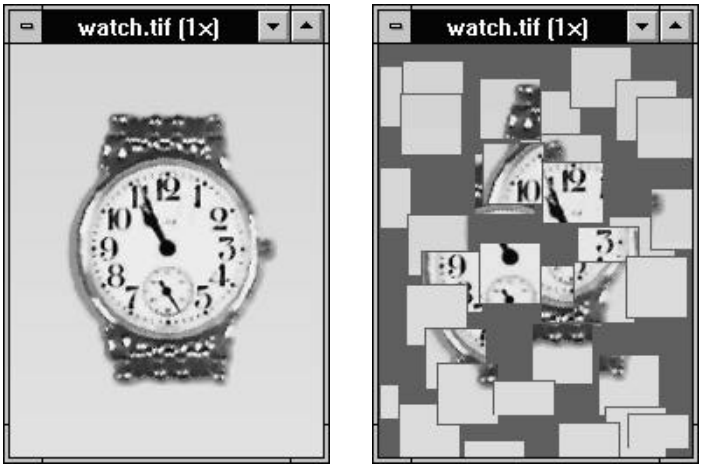
### *Stagger*

The Stagger effect is only available for RGB True Color images. When you select this effect the image is distorted horizontally, producing a severe zigzag effect along the image or selected area. Using the direction options you can change the stagger to the left or right.

### *Tile*

The Tile effect is similar to the puzzle effect except that the image is broken up into square blocks rather than a grid. To control the size of the squares, use the ***Square Size*** slider. The ***Shift Value*** slider determines how the squares are moved around the image. (When the squares overlap each other, the background is filled with the current background color.)

*Image before and after applying the tile effect*



### *Watercolor*

The Watercolor effect is only available for RGB True Color images. Applying this effect gives the impression that the image has been created using watercolors. By adjusting the ***Stroke Size*** you can specify the size and length of each paint stroke. Moving the slider to the right adds more water to the paint, making the edges appear darker than the center.

### *Windy*

Windy is similar to the Blast effect and can only be applied to RGB True Color images. Use this to create “wisps” of wind over the image. To control the direction of the wind use the direction options, and the slider to determine how hard the wind is blowing.

# 8 *Image input & stitching*

*All types of photographs, illustrations, and even video frames can be brought into Image Editor via a range of input devices. This chapter introduces the commands that access image input devices and then goes on to describe the different options Image Editor provides for combining images.*

### 8.0.1 Before you begin

The Acquire, Source, Import and Export commands in the File menu provide ways to access external software drivers. The commands in the Import and Export submenus change according to installed drivers. Because of this flexibility, we cannot describe all the possibilities here. For information about the use of an installed driver, please refer to its documentation and on-line help.

**Note:** *All external image sources involve some sort of hardware and an associated software driver. Different sources require different installation procedures and provide different facilities. To find out about these, please refer to the manufacturer's documentation.*

# 8·1 Importing and exporting

The Import and Export submenus in the File menu provide access to external software modules expanding Image Editor's ability to access and output image files in special formats and for special devices.

To install modules, run the Driver Setup program and select the Import/Export module option. Click OK and in the subsequent screen, choose the module you wish to install or select "Others" to install an unlisted driver. Unlisted modules require a disk containing the module's driver file and an OEM.INF file.

Because the Import and Export submenu commands access specific functions and devices, you won't be able to use any that appear unless you have a suitable device. Devices supported by modules available for Image Editor include Photo CD drives and special printers like the Kodak XL 7700.

## 8.1.1 The TWAIN commands

TWAIN is an industry standard that allows applications to use input devices without a complex installation procedure. It has been described as "providing seamless connection between applications and devices".

If you have a TWAIN-compatible device you should follow its installation procedure. Once correctly installed, you will be able to use the device from Image Editor or any other application that supports TWAIN without worrying about compatibility problems.

### *Acquire*

Choosing the Acquire command in the File menu accesses the software driver for the device selected in the Select Source dialog box. When you choose the Acquire command, a dialog box appears. This dialog box varies according to the image input device you have installed.

**Note:** *If you select the Acquire command and you do not have a TWAIN device installed, you will see an error message. If you do have a TWAIN device, but it is incorrectly installed, a dialog box appears containing installation options.*

### *The source options*

The Source submenu in the File menu contains commands that allow you to select your TWAIN source and define post processing options. The Select command opens the Select Source dialog box that lists all your available input sources. To select a source, click on the source and then press OK. If you have only one source, it is automatically selected. The other commands define what happens to the image after scanning.

### *Performing post processing*

When you input an image, Image Editor allows you to perform a variety of post processing commands: Auto Tone Adjustment, Brightness and Contrast (see p.109), Tone Adjustment (see p.106), Tone Mapper (see p.108) and Scan to Printer. The Auto Tone Adjustment command is applied during the input process whereas the others, except for Scan to Printer, invoke their respective dialog boxes once the image has been created. The Scan to Printer command opens the Print dialog box, allowing you to specify how the image is printed before input.

**Note:** *When you choose a command, a tick appears to the left of the command. Choosing the command again deselects it.*

***Auto Tone Adjustment*** automatically adjusts the highlights and shadows and remaps newly input images onto the full range of available colors, improving contrast in the image. When you select Auto Tone Adjustment you also have the option of adjusting midtones. In the spin box at the bottom of the dialog box, enter a value from -100% to 100%. Negative values darken the midtones, positive values lighten them. Select a value of 0 if you only want to remap the image to use the full range of colors available.

# 8·2 Joining image strips

If your scanner cannot scan the whole of a picture in one pass, you can input the entire picture by scanning the picture in strips and then joining the resulting images. In this situation, the ability to join images accurately and efficiently is essential. Image Editor provides two approaches to this function through the Tile Two Images and Stitch commands in the Edit menu.

With both “Tile Two Images” and “Stitch” you choose an image and the position to place it relative to the active image. The major difference between the two commands is that “Tile Two Images” joins images with a specific distance between them while “Stitch” provides multiple options and controls for both manual and automatic joining.

Use “Tile Two Images” to create special effects or to join two images when the joint is not critical. Special effects can include placing the same image against itself or by joining a flipped version of an image to the original to create a mirrored effect. “Stitch” is the command of choice where pixel-level control and seamless joining is important.

**Note:** *You can only join images that share the same data type and are either Grayscale or RGB True Color. To join images of other data types, first convert them to Grayscale or RGB True Color.*

*To join two images using the Tile Two Images command:*

1. Make one of the images you wish to join active by clicking on its title bar.
2. Choose “Tile Two Images” from the Edit menu. The Tile Two Images dialog box appears. In the preview window the active image and floating image (with a gray shadow) appear.
3. In the ***Floating Image*** combo box, select the image you want to join to the active image. The image selected here appears as the floating image in the preview window.
4. Use the ***Direction*** arrows to place the floating image relative to the active image.
5. In the ***Distance*** entry box, enter the distance you want between the edges of the images. If you enter a positive value, the gap between the active and floating images is filled with the current background color. If you enter a negative value, the images overlap with the combination in the overlap area being controlled by the ***Transparency*** option.
6. Click OK. The dialog box closes and a new window appears containing the joined images.

# 8·3 The Stitch command

The Stitch command in the Edit menu opens the Stitch dialog box. This dialog box is similar to the Tile Two Images dialog box except that it does not have the Distance and Transparency entry boxes; the OK button is also replaced by a Place button.

Clicking on the Place button puts Image Editor into “Stitch” mode. In this mode, the Image Editor workspace is cleared leaving only the two images to be stitched. The normal Image Editor menus are replaced by special Stitch menus. In Stitch mode you can use the following options:

- set auto-stitching parameters and make Image Editor automatically match and align the floating image on the active image.
- drag the floating image until it matches with the active image.
- define a reference point in each image, by holding shift down and clicking first in one and then in the other, Image Editor then aligns the images on these points.
- select “Auto Fine Tune” in the Option menu to aid in manual stitching.
- set the transparency of the floating image to aid manual stitching and to define how images are combined in the overlap area.

## 8.3.1 Operating in Stitch mode

Stitch mode allows you to find the best alignment of two images by combining the use of manual, automatic, and assisted joining functions. In this mode there are three menus and one menu bar command.

### *Action menu*

**Auto Stitch...** choosing this command opens the Auto Stitch dialog box. At the same time a horizontal or vertical line appears on the active image. This line represents the approximate position to which the floating image should overlap. This line is moved by dragging the Overlap Range slider.

**Note:** *If the overlap is too small (less than thirty pixels), the chance of a successful match is greatly reduced.*

As well as adjusting this overlap range, a second control, "***Horizontal/Vertical Tolerance***", allows you to provide for misalignment in the other direction. The tolerance should be slightly greater than the distance the floating image needs to move (horizontally or vertically) to align with the active image.

Clicking OK in this dialog box automatically repositions the floating image to match the active image according to the overlap and tolerance parameters you have defined.

**Done** stitches the two images together. The Image Editor window reappears as it was before stitching with an additional window containing the newly stitched image. (Double-clicking on the non-active image has the same effect.)

**Note:** *If you try to exit Stitch mode by selecting "Close" from the control menu, a message, "Please complete the Image Editor operation first", appears. Click OK and, if you don't want to continue stitching, select "Quit" from the Action menu.*

### *View menu*

**Actual view** returns the view of the images to the normal (1×) view where each image pixel is shown by one screen pixel. If you are already at actual view, this command has no effect.

**Zoom In** and **Zoom Out** change the view of the images one step at a time. Use these commands if you want to view a magnified or reduced portion of the images to enable you to stitch more accurately.

**Transparency...** opens the Transparency dialog box. This dialog box allows you to specify the transparency of the floating image. Wile you are placing the floating image, use a transparency of 50% to enable you to see both images equally. Before stitching, choose another transparency to define how the area of overlap appears after stitching. Selecting 0% causes the floating image to obscure the active image in the area of overlap. A 100% selection causes the active image to obscure the floating image.

### *Option menu*

**Auto fine tune** automatically fine-tunes the position of the floating image immediately after you have moved it by dragging or by defining matching points. To be successful the floating image must be placed fairly close to its final destination (within thirty pixels either way). This option usually achieves the best result with the least amount of effort.

**Note:** *When you choose the Auto Fine Tune command, a tick appears to the left of the command, thus enabling it. Choosing the command again deselects it.*

**Help!** menu bar command provides you with direct access to help on the stitching process.

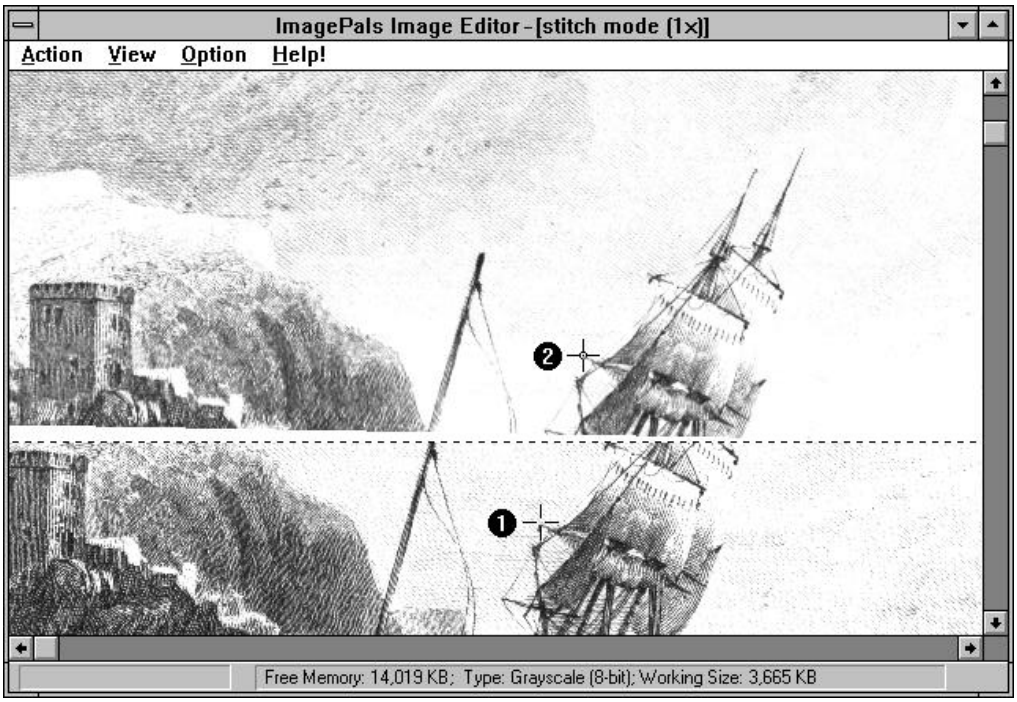
*To stitch two images manually:*

1. Make one of the images you wish to join the active image.
2. Choose "Stitch" from the Edit menu. The Stitch dialog box appears.
3. In the ***Floating Image*** combo box, select the image you want to join to the active image. The image selected here appears as the floating image (with a gray shadow) in the preview window.
4. Use the ***Direction*** arrows to place the floating image relative to the active image.
5. Click on the ***Place*** button. Image Editor enters Stitch mode.
6. Drag the floating image until you are satisfied with its position.
7. Double-click on the image or select "Done" from the Action menu. You exit Stitch mode and a window appears containing the stitched image.

**Notes:**

- *An alternative to dragging is to define a matching point in each image: hold Shift down and click on a point in one image and then on a point in the other. Image Editor then moves the images to match on these corresponding points. To improve either method, choose "Auto fine tune" from the Options menu* before *setting reference points or dragging.*

*Stitching images by defining reference points*




1. *Original matching point, defined by holding down Shift and clicking on the floating image*
2. *Corresponding matching point, defined by holding down Shift and clicking on the active image*

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