ImagePals GO!

User Guide

Ulead Systems, Inc.
January 1994

First English edition for ImagePals GO!
January 1994

Software license

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Sample image and graphics files

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Welcome to ImagePals GO!

ImagePals GO! is an integrated package containing file management and advanced image editing programs that make your work with images and other files easier and more productive than ever before.

There are two main programs: Album, for cataloging and managing, browsing, converting and retrieving your files and Image Editor, for scanning, editing, enhancing and adding special effects to your images. An additional utility, Viewer, allows you to instantly view and edit any image or graphics file.

How to get the most from ImagePals GO!

Reading this guide is not the only way you can learn about ImagePals GO!: the ***ReadMe*** file contains technical information and anything that came to light after this manual was produced, (a good idea is to print a hard-copy of this file and keep it stored with the ImagePals GO! guide), and the on-line ***help*** provides a complete and in-depth reference which can be easily accessed by pressing the F1 key or clicking on the help button provided in certain dialog boxes.

This guide has been divided into two sections, Album and Image Editor, making it more readable and relevant to the way you work. The following previews the contents of each section as well as the initial introductory chapters:

- ***Getting started***, explains how to install the ImagePals GO! programs and highlights necessary system requirements.
- ***Background information***, introduces the ImagePals GO! programs. This will help you understand what you can achieve with each and covers important topics such as using the on-line Help, object linking and embedding, and file formats.

1. ***Album***, details all the functions and features available in both the Album and Viewer programs of ImagePals GO!
2. ***Image Editor***, details all the functions and features available in the Image Editor program of ImagePals GO!

- ***Glossary***
- ***Index***

Getting started

This chapter is designed to get you up and running with ImagePals GO! as quickly as possible. Here you will find sections on what you need to get started as well as the installation procedure.

What you need

Before you begin installing, check that you have the following:

Your ImagePals GO! package

- ***License agreement.***
- ***Disk pack,*** one of the first questions you will be asked during installation is the serial number from the disk pack: take a note of the number or have the disk pack on hand before you begin installing.
- ***Registration card,*** take the time to fill out this card during installation and become a registered user.

Your computer

- ***System,*** an IBM PC 386/486/586, PS/2, or compatible computer.
- ***Operating software,*** Microsoft Windows (version 3.1 or higher).
- ***Memory,*** 4MB or more of system memory (RAM).
- ***Disk drives,*** a 3½"disk drive and a hard drive (with approximately 5MB of free space).
- ***Display,*** any Windows-compatible display adapter, including VGA, Super VGA, XGA, 8514/A, and 15-, 16-, or 24-bit.
- ***Pointing device,*** any mouse, trackball or pointing device supported by Windows.
- ***Input device (optional),*** any desktop or hand-held scanner, video board or frame grabber with compatible drivers including TWAIN-compliant devices.
- ***Printer (optional),*** any black & white or color printer, imagesetter or film recorder supported by Windows.

Installation

The ImagePals GO! installation program runs from within Windows and is fully self-explanatory. You must use this program to install ImagePals GO! as the program files require decompression during installation.

To install ImagePals GO!:

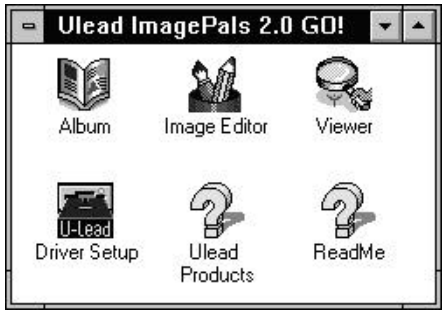
1. Turn on your computer and run Microsoft Windows.
2. Read the license agreement and, if you agree to abide by it, open the disk pack.
3. Remove the ImagePals GO! program disks and make a backup copy of each. Use the backup copies to complete the installation.
4. Insert the first program disk into drive A (or drive B).
5. Open Program Manager (or File Manager) and choose the Run command in the File menu. The Run dialog box appears.
6. In the Command Line entry box, type **a:\install** (or **b:\install**) and press enter. The installation program begins.
7. Follow the installation program instructions. While the program is installing files, the installation window displays information about ImagePals GO! and the progress of the installation.

Note: *To move between entry boxes in the installation program, use your mouse or press TAB (*not *ENTER).*

8. When the installation program is finished with disk 1, you will be asked for disk 2. Remove disk 1, insert disk 2 and click OK. Repeat this step for each disk requested.
9. When the installation is complete you are asked if you would like to read the ReadMe file. This file contains important information that is not included in the printed documentation.
10. Remove all the disks and keep them in a safe place. ImagePals GO! is now installed and ready for use. The ImagePals GO! icons will appear in a program group in Windows Program Manager. (Exactly where depends on the choices you made during installation.)

Running ImagePals GO!

To run either of the ImagePals GO! programs, simply double-click on the appropriate icon in the Windows Program Manager. If you followed the suggestions made by the installation program, the program icons appear in the Ulead ImagePals 2.0 GO! program group.



The ImagePals GO! program group

Background information

Before you start work with ImagePals GO!, it is important that you understand some of the concepts and features of each of the ImagePals GO! programs. This chapter explains these and also discusses important topics such as calibrating your display, using the on-line help, object linking and embedding (OLE) and file formats.

ImagePals GO! – an overview

ImagePals GO! is a *Lite* version of the widely successful image editing and file management program, ImagePals 2.0. While performing just as well as ImagePals 2.0, ImagePals GO! does have certain restrictions, these are:

- reduced support for certain image and graphics file formats,
- a limitation of only 2 albums in the Album workspace, or on the shelf, at any one time,
- a maximum of 100 thumbnails in each album. (You can, however, have an unlimited number of albums.)

Note: *For a complete description of ImagePals 2.0, choose the About Ulead Products command in the Help menu.*

Apart from these, each of the ImagePals GO! programs share the following features:

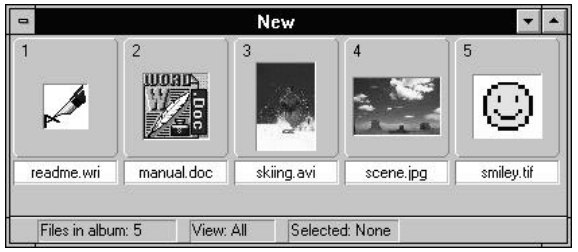
- support for Black & White, Grayscale, Indexed 16- and 256-Color, and RGB True Color image data types.
- compatibility with the following image and graphics file formats: BMP, CGM, EPS, GIF, JPG, PCD, PCX, TGA, TIF, and WMF.
- conversion between file formats.
- support for JPEG, LZW and RLE compression schemes.
- ability to view images at different magnifications.
- monitor gamma calibration.
- printing to output devices supported by Windows, including PCL and PostScript printers, film-recorders, and high-resolution imagesetters.
- batch manager to apply commands to multiple files.
- commands to undo and redo operations.
- enhanced “drag-and-drop” facilities.
- multiple preferences to customize display and feature options.
- expanded on-line help that is always available via a help button or the F1 hot key.

Album

The traditional way of managing files has been to use the “file tree” approach, such as that adopted by DOS and Windows. This method displays the files on your system as a tree consisting of a root directory with subdirectory “branches”. Album does not change this structure, it only represents the information in a different way – through the use of albums and thumbnails.

Albums just like the real thing, are used to store photographs (thumbnails) of your files. Just as you can have albums of photographs for particular events, you can have albums of files for particular purposes, e.g. an album of video files, or one that holds your latest multimedia presentation.

Thumbnails are visual representations of the contents of a file. Therefore you “see” what a file is, rather than having to rely on an 8 character filename. This way, it is much easier to identify your files and to group like files together. Thumbnails also allow you to append additional information, such as subjects and descriptions, that traditional filenames could never do.



An example of thumbnails in an album

To utilize Album to its fullest, it should be the first program you open after running Windows. You can access, as well as maintain, all your files and programs from within Album and there should be no need to return to Windows Program Manager. Some of the features of Album are:

- ability to visually catalog all your image, graphic, animation, audio, video and application-linked files.
- automatic and manual file collection.
- choice of thumbnail size, data type, and compression.
- commands to move, copy, rename, delete, and change DOS attributes of any file, and to convert the data types and file formats of image and graphics files.
- automatic file and album integrity checks.
- facilities to easily assign and maintain thumbnail descriptions, subjects and keywords. (You can even export and import catalog information as text files for spell-checking and quick input)
- marking of individual thumbnails to aid interactive browsing.
- search ribbon for one-step search operations.
- display of multiple files for preview or comparison.
- slide show for images, graphics, animation, and video files – including soundtrack controls.
- drag-and-drop of thumbnails between albums as well as to and from programs, (including Windows File Manager).
- enhanced OLE support with special features to speed up placing, previewing and printing of images in client programs.
- toolbox, with program grouping, provides direct and convenient access to your most commonly used programs.
- shelf for storing albums.
- direct import of images from TWAIN-compatible devices.

Viewer

Viewer is a utility that provides a quick and easy way to open and display image and graphics files – regardless of their associated programs. This is particularly useful when you want to compare images, view an image at its actual size or check the contents of an image or graphics file. Once displayed in a Viewer window, you can perform basic editing operations or transfer the file to an editing program of your choice.

Image Editor

Image Editor, as the name suggests, is all about editing your image files and comes equipped with a comprehensive range of image processing commands and tools which can be used to create, compose, change, and improve any type of image from black-and-white to full-color. Add to this extensive special effects, such as warping and variable distortions, and you have a package that satisfies the most demanding of imaging users. Some of the features of Image Editor include:

- unique object pool for the storage and management of images and masks.
- global viewer to help you find the right view of an image quickly.
- selection tools and commands to select single or multiple parts of an image, expand selection areas, select the border of an area and control the merging of selection areas.

- painting and retouching of images with a wide range of tools.
- an anti-aliasing option for smoother text.
- clone tool for cloning parts of an image within or between images.
- controls to adjust gamma, hue, saturation, brightness, contrast, and mapping curves – all of which help to enhance a whole image or any selected part of an image.
- transformations such as distort and slant as well as over twenty special effects including warping, puzzle, watercolor, and fisheye; all with the ability to preview effects before application.
- friendly, automatic and manual stitching of images.
- enhanced support for OLE.
- image input from Photo CD, scanners, frame-grabbers, or other input devices which have a compatible driver.
- input and output device calibration with post-processing commands and pre-print mapping options (and new halftoning control for printing).

Using the on-line help

The on-line help provides a useful and informative alternative to learning about ImagePals GO!, and should be used in conjunction with this guide. In the help, you will find concise and definitive explanations about various menu commands, operations and procedures.

Help can be accessed in 3 ways: from the Help menu, by clicking on the Help button in certain dialog boxes, or by pressing the F1 hot key. How you access help depends on what you are doing at the time and what information you wish to view. The following describes each of these access methods:

Help menu provides commands that open help at either a specific topic or at the contents page of help. Use the Help menu when you want to browse through help or wish to go to a specific topic. There are also commands that display information about ImagePals GO! as well as other products in the Ulead range.

Dialog boxes may contain a Help button that, when selected, opens help at the page describing the dialog box you are in. This is particularly helpful when you want to clarify or understand certain commands and options available in a dialog box.

F1 hot key is perhaps the most convenient way to access help, as it is easy to remember (just press the F1 key) and opens help at the topic describing the command or feature your mouse is currently resting on.

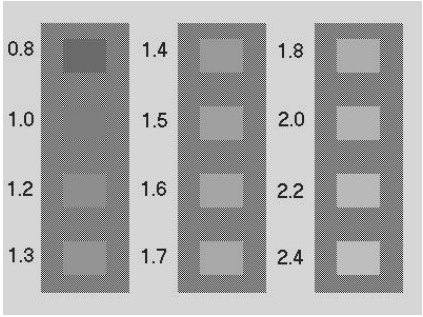
Calibrating your display

To display images and graphics consistently, it is important that you optimize your monitor by calibrating your display. Every time you change your monitor, display adapter or the environment in which you work, you should recalibrate. You can conveniently calibrate your display from either Album, Image Editor, or Viewer.

To calibrate your display:

1. Choose "Display" from the Preferences submenu in Album's Album menu or in the other programs' File menu. The Display dialog box opens.
2. Make sure the Monitor Gamma option is unchecked. If it is checked, click on it to uncheck it.
3. Click OK. The dialog box closes.
4. Display the IPGAMMA.TIF file. In Image Editor or Viewer, open it using the Open command from the File menu. Using Album, insert it into an album and double-click on its thumbnail to display it, (in Viewer).

Note: *The IPGAMMA.TIF file should be in the same directory as your ImagePals GO! programs.*



The IPGAMMA.TIF file

5. Examine the IPGAMMA.TIF image and identify the gray square that most closely matches the midtone gray of the vertical background strips. Make a note of the number of this square.
   If, for example, the square at the bottom of the middle row most closely matches the gray strip, take a note of the number 1.7.

> **Note:** *This number can be any value from 0.01 to 7.99. If none of the squares exactly match, you should estimate the best match. In general, your value should fall within the range 0.8 – 2.4. If none of the squares match, then you may need to manually adjust the brightness and contrast controls on your monitor first.*

6. Open the Display dialog box again. (A complete procedure is given in step 1.)
7. Click on the Monitor Gamma option to check it and enter the number recorded in step 5 into the Monitor Gamma entry box.
8. Click OK. The dialog box closes. Now, when you view the IPGAMMA.TIF file, the gray square numbered 1.0 should most closely match the gray strip.

Object Linking & Embedding (OLE)

One of the advances to Windows over the years has been the introduction of object linking and embedding, (OLE). OLE is a method of maintaining and transporting files between programs. The file is called an *object* while the programs are referred to as the server and client. The *server* is the program that created or can edit the object; the *client* is the program into whose document the object is placed. Album (in conjunction with Viewer) and Image Editor can act as server programs, while your word processing, DTP and presentation packages (e.g. Microsoft Write, Word for Windows, Aldus PageMaker 5, Quark Xpress and PowerPoint) can act as clients.

Once placed into a client program, the object "remembers" the server program it came from. To edit the object, you simply have to double-click on it in the client program's document: the server program opens, displaying the object. This link to the original file and its server program is the advantage OLE has over copying and pasting.

So, what about linking and embedding? Well, in taking the object from the server to the client you can choose if just a representative version of the object is taken, *linked* – or if the object itself (and a representative version of it) are taken, *embedded*. The remainder of this section explains more about linking, embedding and the options Album and Image Editor provide as server programs.

Linking

Linking an object stores a representation of an object and a link, to both the original file on disk and the server program, in the client program's document. This means that you *must* retain the original file on disk, and in the same location, to retain the ability to edit it. The major advantages of linking are:

- it does not increase the size of the client document too much (especially if you use Album's low resolution place-holder option).
- you can place an object, such as a logo, into many different documents and by editing the original file update all of them in one action.

The disadvantages are:

- if you are not just using Album to manage your files (you may also be using DOS and Windows File Manager) it is very easy to move, delete or change a linked file unknowingly.
- the document is not readily portable – to move the document and maintain a link, you need to move the files with the document and retain the same directory structure or relink them after moving.

To link an object

Linking objects always starts from the server, as follows:

1. *From Album:* locate the album containing the thumbnail of the file you want and select it.

   From Image Editor: open the image file you want (if you wish to paste only part of the image, select that part).

> **Note:** *Before you proceed, ensure that the correct options are chosen in the OLE & Clipboard preferences dialog box. For Image Editor, select* ***Include OLE-Related Formats*** *or, in Album, select* ***OLE Linking Format****.*

2. Choose “Copy” (Image Editor) or “Copy: File” (Album) from the Edit menu to copy the selected file to the clipboard.
3. Open or switch to the client program containing the document into which you want to place the object.

4. Choose the client program's Paste Special command. The Paste Special dialog box appears.

> **Note:** *Some client programs have a Paste Link command, you can use this as a more direct alternative to the Paste Special command.*

5. Select "Picture" or "Device Independent Bitmap" in the Data Type list box (choice depends on whether the source is Album or Image Editor). The Paste Link button becomes enabled.
6. Click on Paste Link. The dialog box closes and a representation of the object appears in the client program's active document.

> **Note:** *You can also place linked objects into client programs by dragging and dropping them from Album. Album also provides an option to choose the representation format to help you make the process as efficient as possible. These options are described fully in the Album section and on-line help.*

Embedding

Embedding an object into a client program's document places a copy of the original file along with a representative version of it and a reference to its server program. This means that if you delete the original file from disk, no harm comes to the embedded file. The major advantages of this are:

- it makes the document containing the object portable and independent: as long as the server program is available, you can edit the object regardless of whether you have deleted the original file from disk.
- there is little danger of you deleting or making changes to the object accidentally. You can also place the same piece of information into many different documents and edit them all individually without affecting any of the others.

The major disadvantage is:

- the size of your document in the client program increases significantly. If you do not wish to retain editorial control over a placed object, it is better to paste a single copy of the object into the document, i.e. don't link or embed it at all.

- when updating a shared object, you have to relink each one individually.

Note: *When embedding objects from Album, it is advisable to keep the original file and the album that contains its thumbnail. If you delete the file or the album, you will still be able to access album from the embedded object and replace the embedded object, but you will not be able to edit it.*

To embed an object

You can start from the client program or the server program to embed an object. Starting from the server program, follow the procedure for linking outlined in the previous section, but, in step 6, press the Paste button instead of the Paste Link button. To start from the client program, use the following procedure:

To embed an object from the client program:

1. Open or create a document in the client program and select the client's Insert Object command (or similar). The Insert Object dialog box appears.
2. In the Object Type list box, select Ulead Album Clip or Ulead Image Editor Image.
3. Click OK. The dialog box closes and the selected server program (Album or Image Editor) appears.
4. *In Album:* locate the album containing the thumbnail of the file you want to embed and select it.
   In Image Editor: open the image you want to embed.
5. From Album's Album menu or Image Editor's File menu, choose "Update *client*" (*client* is the name of the client program you began this procedure in).
6. Switch back to the client program. The object you selected appears in the document in the client program.

Note: *The options in the OLE & Clipboard preferences dialog box do not affect this method of embedding. However, if you use the client program's Paste or Paste Special commands be sure you have selected the options appropriate to embedding.*

What happens when you double-click on, or want to edit an object?

When you go to edit an object from Image Editor, the behavior is the same as that for other normal server programs; Image Editor opens displaying the object. Album, however, is a little different as Album supports more than just image files and provides no editing functions. You can relink as follows:

For image and graphics files

- to relink or update an embedded file: Select the Edit: Ulead Album Clip command, Album opens displaying the album the original object came from. You can then update from the original, or select an alternative thumbnail and update.
- to view a file in Viewer: Double-click on the object and the file is displayed in Viewer. This is most useful for viewing the original file of a low-resolution place holder.
- to replace an embedded low resolution place holder with the original file: Select the Edit: Ulead Album Clip command, Album opens displaying the album the original object came from. Open the OLE & Clipboard dialog box, accessed by choosing the OLE & Clipboard command in the Album: Preferences submenu, and select the ***Source Object Representation Format***. Choosing the Update command in the Album menu then replaces the low-resolution place holder with the original image.
- to relink a low resolution place holder, which has been linked, to its original image or graphics file: Open Album and, in the OLE & Clipboard dialog box, select the ***Source Object Representation Format***. Close Album and go back to the client. In the client, select the object and update it (most clients provide update links, update fields or similar command for this purpose).

For other types of files

Album can embed and link all types of images, graphics, animation, sound, and video files. After embedding or linking you can use the link provided by Album as follows:

- to relink or update an embedded file: Select the Edit: Ulead Album Clip command, Album opens displaying the album the original object came from. You can then update from the original, or select an alternative thumbnail and update.
- to preview a sound, animation, or video file: Double-click on the object and the file is displayed in Windows Media Player.

Images

ImagePals GO! provides extensive tools for managing and manipulating images, therefore, it is important that you fully understand what is an image. Armed with this knowledge, you can use ImagePals GO! more efficiently and achieve the best possible results with a minimum of effort.

To many people, an image is a picture, a painting, or even an idea; but in the world of computers, it is a collection of dots called *pixels*. These pixels are arranged in rows to form the image.

Each pixel is white or colored. Exactly which color depends upon the *data type* of the image. For the simplest data type, the pixels can be either black or white. For the most powerful data type, each pixel can be any one of 16.7 million colors.

As long as the pixels are small enough, you do not see them as individual dots: you see groups of pixels, which together form areas of color or gray. For images placed in a word processor, DTP program or output to a printer, the size of the image is determined by its *resolution*. If an image has a resolution of 100 ppi (pixels per inch) and it is 100 pixels in width by 200 pixels in height, it will be one inch wide by two inches high.

Notes:

- *An image's pixels, resolution and data type all play a part in determining how the image will look when displayed or printed.*
- *When working with images in Image Editor or transferring images into a video, the resolution information is irrelevant: the size of the image is determined by its dimensions in pixels and the resolution of your graphics mode and monitor size.*

Image data types

The data type of an image determines the colors the image may contain, and may also determine how it can be manipulated. In ImagePals GO!, an image of any data type can be displayed on any type of computer display, but it does not appear the same on all displays. For example, if you display a color image on a monochrome monitor you will not see colors.

In many descriptions of image data types, you will see mention of *bits*. The number of bits controls the number of colors available. You can work out the number of colors available by raising two to the power of the number of bits. For example, an 8-bit image data type gives you 256 different colors (2 to the power of 8 is 256). This section explains the data types supported by ImagePals GO! and the table over shows file formats available with the various data types.

Data type	File formats supported by ImagePals GO!
Black & White	BMP, EPS, GIF, PCX, TIF, WMF
Grayscale	EPS, JPG, PCX, TGA, TIF
Indexed 16-Color	BMP, GIF, PCX, TIF, WMF
Indexed 256-Color	BMP, GIF, PCX, TGA, TIF, WMF
RGB HiColor*	BMP, TGA
RGB True Color	BMP, EPS, JPG, PCX, TGA, TIF, WMF

** Not supported by Image Editor*

Black & White

Black & White is a one-bit data type. In a Black & White image, each pixel can only be one of two colors: white or black. You get gray shades by arranging black and white pixels in such a way that they appear to be gray. For example, in a square of four pixels by four pixels (sixteen in all), if there are eight black and eight white pixels arranged properly, the square will look gray (a 50% tint of black).

Grayscale

Each pixel in an 8-bit Grayscale image can be black, white, or any one of 254 different shades of gray. Grayscale is a 256-color (8-bit) data type.

All the Image Editor tools and commands can be applied to Grayscale images except those which are color specific. Choose this data type when you want to prepare images for publications being printed in a single color. If you want to introduce color into a Grayscale image, convert it to RGB True Color or Indexed 256-Color first.

Indexed 16- and 256-Color

Indexed-Color images are images that have a *color table* incorporated into their description. This color table contains all the colors that can appear in the image. For Indexed 16-Color images, the table has 16 colors (4-bit); for Indexed 256-Color images the table contains 256 colors (8-bit).

You can simulate additional colors by using different colored pixels arranged closely together (dithering). Using this technique, the eye is tricked into seeing more colors than are actually found in the color table.

Most ImagePals GO! functions work on indexed-color images, but to get full benefit from the more advanced editing features you need to convert Indexed-Color images to RGB True Color. You may wish to convert images to indexed-color for use in certain programs (such as multimedia presentations) and for display on 256-color and 16-color monitors.

RGB HiColor

This data type was introduced in conjunction with 15- and 16-bit display cards (capable of displaying 32,768 or 65,536 colors). For displays, these cards provide a lower-cost alternative to True Color cards for high quality color representation.

You may want to use this data type if you are capturing from a HiColor display or, if thousands of colors satisfy your needs, save images in this data type to save space on your hard drive. (An RGB HiColor image occupies 33% less memory space than an equivalent RGB True Color image.)

RGB True Color

The initials RGB stand for Red, Green, and Blue. The data type bears this name because all colors are created with different amounts of red, green, and blue. In fact there are 256 shades of each available color. When you mix all of these together you will find there are 16.7 million possible colors (3 × 8-bit = 24-bit), hence the term True Color. You can apply all the Image Editor tools and commands to RGB True Color images.

RGB 8-Color

The RGB 8-Color data type is a three-bit data type where each pixel can be one of eight colors. ImagePals GO! supports scanners that scan RGB 8-Color images and will open RGB 8-Color images. RGB 8-Color images are automatically converted to Indexed 16-Color with the same colors retained (plus space for eight more). You cannot, however, convert to, or create new RGB 8-Color images.

Understanding color

As mentioned previously, how color is represented in an image depends on its data type. Some data types are easier to visualize than others, e.g. Grayscale data types consist of only two main colors, black and white, and a further 254 shades of gray in between, (256 “colors” altogether).

For color images the situation is very different. Our eyes can distinguish many thousands more colors than we can accurately describe. Color models help us imagine and describe colors for different situations. The ImagePals GO! programs make use of the red, green, blue (RGB) model and the hue, saturation and brightness (HSB) model.

RGB color model

This model does not make it easy to imagine lots of colors, but is used by many computer monitors and image data types to specify color. From the whole spectrum of color there are three *primary* colors, red, green, and blue, from which all other colors can be created.

In the RGB model the primary colors are plotted in a three-dimensional chart that resembles a cube. Red, green and blue are found on the x, y and z axes of the chart. The colors increase from nothing (black) at the origin to pure color. The line from the origin to the diagonally opposite corner of the square changes from black through varying shades of gray to white and represents equal amounts of red, green and blue.

HSB color model

We can visualize the colors available on each face of the RGB cube, but it is hard to imagine all the color combinations available inside. It is easier to imagine ranges of color (hue), such as reds, yellows, blues, violets; varying from a dull gray shade to a bright pure color (saturation); and whose brightness can vary from very light (white) to very dark (black). This is how color is presented in the HSB color model.

The HSB color model takes the form of an upside-down cone. Looking at the top of the cone you can see the colors arranged in a circle. The position of each color is defined relative to red. Green is at 120°, and Blue is at 240°. Opposite each primary color is the color's complementary color: opposite red is cyan (180°), opposite green is magenta (300°), and opposite blue is yellow (60°). If you follow a color band from the center out, you will see the color goes from white to an intense color, this is the saturation of a color. Brightness is represented from the tip of the cone, to the bottom, darkness.

File formats

Since the Album program of ImagePals GO! can manage files of any type, you will almost certainly find yourself seeing file extensions and formats you're not familiar with. To help you navigate through this, Album categorizes files into eight media types: Image, Graphics, Waveform, MIDI, Video, Animation, Application-Linked, and Others. From these types, Album can only directly edit, read and write files falling into the Image and Graphics groups. For files from the other groups, Album can directly catalog and manage them and, when you wish to edit them, transfer them to compatible programs for you.

The table below shows the extensions of files that you will normally find in each group. This chapter describes these files in the order they are presented in the table.

File type		File formats available (extensions)
Application-linked		Any file registered in registration database, e.g. WRI, TXT,...
Others		DBF, DOC, PPT, RTF, CDR
Waveform		VOC, WAV
MIDI		MID, RMI
Video		AVI
Animation		FLC, FLI, FLX
Graphics		CGM, WMF
Images		BMP, EPS, GIF, JPG, PCD, PCT, PCX, TGA, TIF

Application-linked files

Application-linked files are files that ImagePals GO! does not directly support. This includes any files whose extension is linked to a Windows program in the Windows *registration database*. (This database is maintained by Windows and records the link between files and their programs.) Application-linked files can be opened in their linked program directly from Album or Windows File Manager by double-clicking on the file's thumbnail or filename.

Links into the registration database come from four places:

- the programs themselves. When installed, programs record their proprietary formats and any formats they "expect" to open. Windows Write, for example, records Write (.WRI) files as one type of file that will open in it.
- the Associate command in the File menu of Album or Windows File Manager. This command opens a dialog box in which you can see the program a format is linked to by typing the extension in the Files with Extension entry box. You can also change the association of files (see your File Manager's Help topic: *Associate Files with Applications*). This command is the method Microsoft recommends for editing the database.
- the [Extensions] section in your WIN.INI file. You can manually edit this section and add new entries. The Associate command is a more interactive method of editing this data.
- the registration database (the REG.DAT file in your Windows directory). Microsoft provides the utility, REGEDIT.EXE, which allows you to view and edit the database.

Other files

This is a special category for files that ImagePals GO! can recognize and extract some information from but cannot read completely. The DOC files from Microsoft Word for Windows are a good example of this: ImagePals GO! can read some of the header information, like the author's name, and enter this into the thumbnail information fields. For CDR files from CorelDRAW. 3.0/4.0 and PPT files from PowerPoint 3.0, you can get the header information from the preview information found within these programs.

Waveform files

ImagePals GO! supports two types of Waveform files: VOC and WAV. WAV is by far the most common and can be played by Windows Media Player directly from Album. Waveform files can record sounds very accurately (much like images can record photographs) but the amount of space they occupy can be very large.

Note: *VOC files cannot be played by Media Player without special updating from hardware sound card vendors.*

MIDI files

MIDI stands for Musical Instrument Digital Interface and is a standard for communication between musical synthesizers and computers. Album can play MIDI files through Windows Media Player. (ImagePals GO! also supports the RMI file format, developed by Microsoft.)

Video files

Currently there is one video file format in Windows that is unrivaled for popularity: AVI. This format was developed by Microsoft for use in its Video for Windows software and can record both Audio and Video data in an interleaved format. ImagePals GO! allows you to play AVI videos using Windows Media Player.

Animation files

ImagePals GO! supports Autodesk Animator FLIC files and uses Media Player to display the files.

Graphics files

Computer Graphics Metafile (CGM)

CGM is an official standard for graphics interchange developed by the American National Standards Institute. It uses three different standard encodings that include character, binary word and readable text. CGM is device independent and is ideal for 2-D CAD and drawing programs such as CorelDraw. ImagePals GO! can read CGM files.

Windows Metafile (WMF)

WMF is a device independent format for the exchange of raster and vector graphics data. WMF supports Black & White, Indexed 16-Color, 256-Color and RGB True Color images.

In ImagePals GO!, saving files in WMF format saves data according to your display mode, e.g. if you save a True Color image as WMF on an Indexed 256-Color display, when you open the file, you will see it as Indexed 256-Color. ImagePals GO! can read both vector and raster formats and write to this format (raster only.)

Image files

Windows Bitmap (BMP)

This is a file format that allows Windows to display an image consistently on different devices (with similar capabilities). It supports Black & White, Indexed 16- and 256-Color, HiColor (565 and 555) and True Color images. You may want to use this format to save indexed-color images for later use in programs like Windows Paintbrush or in Windows itself (as, for example, your "Wallpaper"). ImagePals GO! can both read and write to this format.

Note: *ImagePals GO! will convert 32-bit True-Color images to 24-bit True Color when reading.*

Encapsulated PostScript (EPS)

EPS is a device-independent file format used in Adobe PostScript language that retains information that can be outputted directly to a printer, or imported into another program. A low resolution TIFF preview enables you to view the image when imported into other programs. ImagePals GO! allows you to read and write to this format (in raster form).

Note: *ImagePals GO! cannot recognize EPS files that contain information other than in an image format.*

Graphics Interchange Format (GIF)

Developed by CompuServe to allow device-independent transfer of images, GIF supports images up to 64 MB in size with up to 256 colors (8-bit), Black & White, Indexed 16- and 256-Colors. GIF formats support LZW compression and is ideal for converting to and from this platform. ImagePals GO! supports its 89A standard and can read and write to GIF format.

Note: *GIF files do not record image resolution.*

JPEG file interchange format (JPG)

Developed by the Joint Photographic Experts Group, JPG is a new industry standard compressed file format that offers compression ratios up to 100:1 (original file: compressed file). As a standard it offers device-independence, i.e. you should be able to open any JPG file in all programs that support this format. JPG supports Grayscale, True Color and CMYK (4-2-4) True Color images. ImagePals GO! can read and write to this format.

JPEG differs from LZW compression in that it is a "lossey" compression scheme: it discards data during compression. To minimize the visual effect of this loss, JPEG identifies and discards the information that is least important to the human eye. Use this format when disk space is at a premium, or you have very large images.

Kodak Photo CD (PCD)

Eastman Kodak created PCD for its Photo CD products which allows you to view photos from Photo CDs. To enable you to view these photos in different display modes, PCD files contain 5 resolutions and allow you to choose from 3 different data types; Grayscale, Indexed 256-Color and True Color photos. ImagePals GO! can read files in the PCD format but cannot save.

PC Paintbrush (PCX)

Developed by ZSoft Corporation for PC Paintbrush, this is the default format used by some scanning packages and paint programs (including PC Paintbrush). PCX supports Black & White, Indexed 256-Color, Grayscale, HiColor, True color and CMYK True Color images. ImagePals GO! has the ability to read and write to this format.

Note: *Some versions of the PCX format do not record the resolution of an image. The version used by ImagePals GO! does. If you import an image with no resolution defined, it will set it at your current display resolution. You can redefine the resolution with the Resolution command in the Edit menu.*

TARGA (TGA)

Developed by TrueVision for its full-color video boards (in particular the TARGA board), this is the format used by many specialist systems. ImagePals GO! supports Grayscale, Indexed 256-Color, HiColor and True Color (Alpha Channel) TGA images, and can read and write to this format.

Note: *Some TGA files do not record the resolution of images.*

Tagged Image file format (TIF)

Developed by Aldus and Microsoft to promote the use of desktop scanners and DTP (desktop publishing), non-compressed TIF is hardware and software independent, but there are many types of compression available that are not.

ImagePals GO! can both read and write files in the TIF format. In addition to Black & White and Grayscale images, ImagePals GO! also supports Indexed 16- and 256-Color, True Color and CMYK True Color (4-2-4) TIF images with LZW, PackBits and CCITT G3 1-D compression options..

Choose this format for exchange image data between graphic media. Programs that support TIF images include: ColorStudio, CorelDRAW, PageMaker, PC Paintbrush IV Plus, PhotoShop, PhotoStyler, Picture Publisher Plus, PowerPoint, PrePrint and Ventura Publisher, to name just a few.

Windows Metafile (WMF)

See description for Windows metafile in the previous graphics section, (p.36).

Working with FIO modules

All the ImagePals GO! programs can read and write FIO (File Input Output) modules. For ImagePals GO!, FIO formats include those from the Images grouping. Depending on your working needs, you may use particular FIO formats more often than others. ImagePals GO! provides a fast and easy way to select these FIO options. Add or remove certain FIO formats by using the File Formats command in the File: Preferences submenu.

Cataloging MIO (Media Input Output) modules is simple in ImagePals GO! Album. You must manually copy, add or delete them from the directory by using File Manager.

SECTION 1

Album

Section preview

1.1 ***Album basics,*** describes basic Album functions such as applying commands, drag-and-drop operations and customizing Album.

1.2 ***Managing albums,*** explains how to create albums and perform standard album file maintenance such as copying, moving, archiving and restoring album files.

1.3 ***Managing thumbnails,*** shows you how to insert thumbnails of files into albums as well as manage the files on your system.

1.4 ***Labeling thumbnails,*** explains how to assign keywords, marks, subjects and descriptions to thumbnails.

1.5 ***Locating thumbnails,*** takes a look at performing a variety of search operations to locate thumbnails and the files of thumbnails.

1.6 ***Viewer,*** introduces the Viewer program of ImagePals GO!.

1·1 *Album basics*

This chapter introduces you to the Album window and explains some of the basics behind how Album manages the files on your system. These basics include applying commands, using the "repeat" key, recovering from any mistakes made, accessing programs from the toolbox, performing drag-and-drop operations, and using the Preferences commands to customize the way Album works with you and your Windows environment.

Running Album

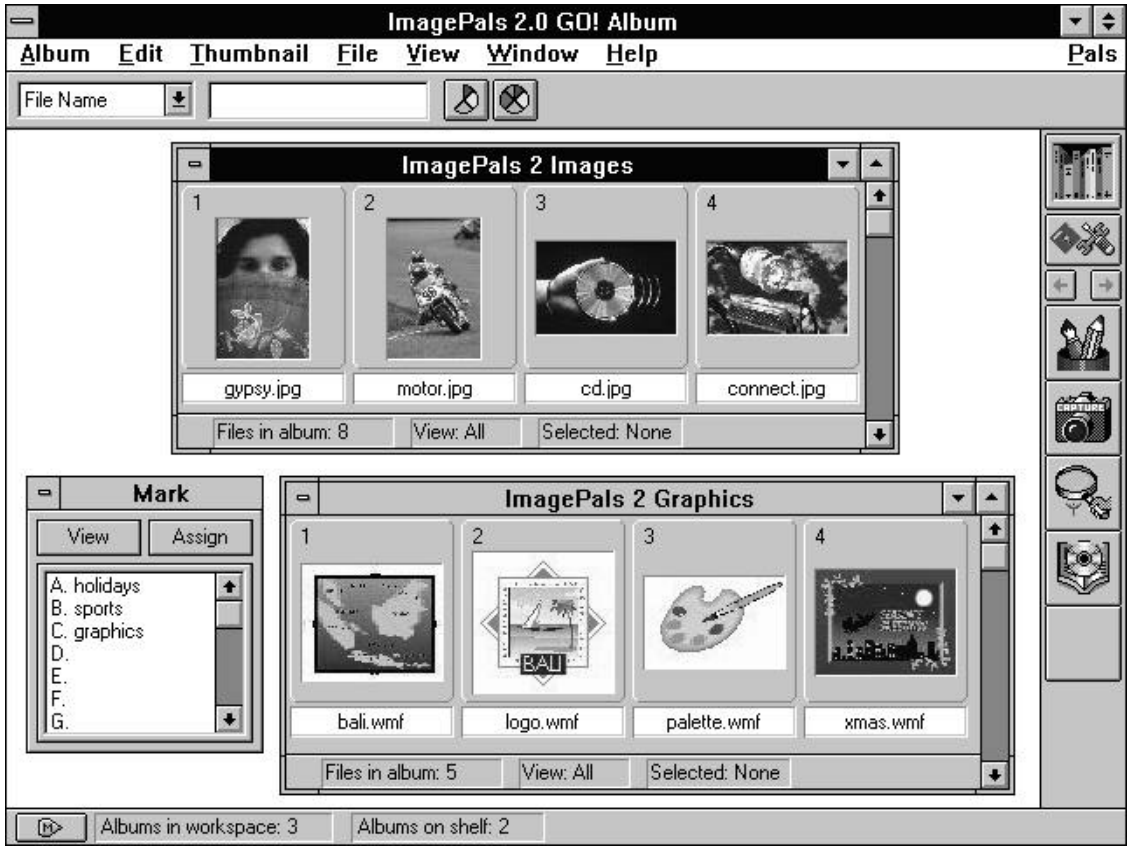
Album can be invoked in a number of ways:

- double-clicking on the Album icon in the ImagePals GO! program group.
- choosing the Album command from the Pals menu in any ImagePals GO! program.
- double-clicking on an album file in Windows File Manager.

The Album window

When you invoke Album you may see:

- Albums within the workspace (the central portion) of the Album window.
- A ribbon, below the menu bar, providing quick access to search functions. (Double-clicking on an empty portion of the ribbon opens the Search dialog box.)
- The mark palette, on the left, used to identify and label thumbnails and a toolbox, on the right, providing direct access to your programs as well as a “shelf” to store albums.
- The status bar, at the bottom, displaying information about the active album. (Double-clicking on the status bar opens the Album preferences dialog box, see p.54)


ImagePals 2.0 GO! Album
Album Edit Thumbnail File View Window Help Pals
File Name
ImagePals 2 Images
1
2
3
4
gypsy.jpg
motor.jpg
cd.jpg
connect.jpg
Files in album: 8
View: All
Selected: None
Mark
View
Assign
A. holidays
B. sports
C. graphics
D.
E.
F.
G.
ImagePals 2 Graphics
1
2
3
4
BALI
bali.wmf
logo.wmf
palette.wmf
xmas.wmf
Files in album: 5
View: All
Selected: None
Albums in workspace: 3
Albums on shelf: 2

Applying commands

To perform an operation, you first need to select the thumbnail or album you want the operation to be performed on, and then choose the appropriate command from a menu. This is fine when you only want to apply the command to a few thumbnails within a single album, but proves inefficient when you want to perform the same command to thumbnails in different albums. To overcome this limitation, Album provides an extra feature, the batch manager.

Using the batch manager

The batch manager can be accessed in two ways: double-clicking on an empty part of the workspace or choosing the Batch Manager command in the Album menu. Once invoked, the batch manager opens and displays the titles of all the albums present in the workspace. The commands that can be applied in the batch manager are: Check, Minimize, Print Thumbnails, Put on Shelf, Remove, Restore Window, Save Sequence, Search, Sort by, View All, View Thumbnails and View Filenames.

To perform a batch command, choose the command you want to perform and select the albums you want the command to be performed on. Once decided, click OK – batch manager does the rest for you.

Note: *The batch manager can only apply commands to albums open in the workspace. If there are no open albums it is unavailable.*

Repeating commands in Album

Complementing the batch manager is the Repeat command in the Edit menu. This allows you to perform the last applied command again by pressing the “F4” key. Simply apply a command to a thumbnail or album, select another thumbnail or album and press “F4”. The action is repeated. Most of Album’s commands can be repeated in this way, for example:

- select a thumbnail and choose “Properties” from the Thumbnail menu. In the dialog box that appears, enter a description in the Description entry box and click OK. Select another thumbnail and press “F4”. The Properties dialog box reopens, enabling you to quickly add new information to the thumbnail.
- select an open album and choose “Size” from the Thumbnail: Sort by submenu. The thumbnails in the album are sorted by their file size. Select another open album and press “F4”. The images in the second album are sorted in the same manner.

Recovering from mistakes

If you make a mistake while working in Album, you can normally correct it by using the Undo command in the Edit menu. This reverses the last applied command and returns the album and its thumbnails to their state prior to the application of the command. At times you may see *Can’t Undo* in the Edit menu. This is when you cannot undo the last action, e.g. immediately after deleting the file of a thumbnail.

Using the toolbox

Central to Album's ability to manage files, is its ability to act as a program manager through the toolbox. By adding frequently used programs into the toolbox you can transfer control and, in many cases, files between Album and those programs. You can also place similar programs into program groups, allowing you to instantly change the toolbox configuration depending on the task at hand, e.g. one group can consist of your multimedia programs, another, your word processing programs and so on. Once an icon is added to the toolbox, simply click on it to open the corresponding program. (You can also open programs from the Run dialog box, accessed by choosing the Run command in the toolbox menu.)

Adding programs to the toolbox

When you invoke Album for the first time, the toolbox appears with a number of "empty" icons. When you add a program, each of these icons are replaced with that of the appropriate program icon. Once placed into the toolbox, you can then manage your programs, and determine which programs are accessible, and at what times.

To add a program icon:

1. Click on the tools button in the toolbox and choose "New" from the menu. The New Program dialog box opens.
2. Click on the ***Program Group*** option and in the ***Group Name*** entry box enter the name of a group you want the program to be associated with, e.g. Multimedia.

3. Click on the ***Program Icon*** option and enter the ***Description***, ***Command Line*** and ***Working Directory*** of the program concerned. To load the ImagePals GO! Image Editor program, type in Image Editor for the Description, the full pathname where your ImagePals GO! files are located for the Command Line and the full pathname of your temp directory for the Working Directory.
4. Click on the New button. The program icon appears in the toolbox. If you want to add more programs to the toolbox, repeat steps 2 to 4.
5. Click on the Close button to close the dialog box.

Notes:

- *You can also add programs to the toolbox by dragging execution files (EXE) from Windows File Manager and dropping them onto an empty icon in the toolbox.*
- *To change program groups, choose the appropriate group name from the list of group commands in the toolbox menu.*
- *If you wish to change any of the parameters specified in the New Program dialog box, choose the Properties command in the toolbox menu.*

Removing a program

At times you may want to remove a program icon, this can be because you no longer need it, have deleted the program from your hard disk, or feel that there are too many icons in the program group. When you remove icons, you can choose to remove individual ones, or all those associated to a program group.

To remove a program icon or a program group:

1. Click on the tools button in the toolbox and choose “Delete”. The Delete dialog box opens.
2. To delete the current program group, select the ***Delete Current Program Group*** option. (This deletes all program icons associated with that group.) To delete an individual program icon, select the ***Delete Program Icon From Current Group*** option and highlight the icon to be deleted from the ***Icon*** combo box.
3. Click OK. The selected program icon or group disappears from the toolbox and the dialog box closes.

Scrolling the program icons

The arrangement of the programs in the toolbox depends upon the order in which you add them. When a program is added, it automatically goes to the end of the list. Too many however, and you may not be able to see them displayed within the program window. To scroll through the icons, click on the direction arrows. Clicking on the left arrow scrolls up, clicking on the right arrow scrolls down. (If all the program icons can be displayed within the workspace, the direction buttons are disabled.)

Customizing the toolbox

When you work in Album, you may prefer the toolbox in another position, or feel that there are not enough program icons available. To better customize the toolbox, use the Configure command (accessed by clicking on the tools button) to open the Configure dialog box. To increase the number of program icons, enter a value (between 1 and 24) in the ***Icons to Show*** entry box. Checking the ***Show Names*** option displays the names of each program under their respective icon in the toolbox. (You may find that when selecting this option the toolbox expands in size to accommodate the added text.) In the Configure dialog box you can also choose to make the toolbox floating or fix it to the left or the right of the Album window. When floating, move the toolbox by dragging on the title bar.

Performing drag-and-drop operations

Drag-and-drop is a simple, yet powerful technique for transferring information within and between programs, and shifting the focus of your work during a Windows session. Album provides extensive support for drag-and-drop that enhances Album's ability to provide complete file and program management. The following section describes the drag-and-drop operations you can perform with Album:

Drag-and-drop to the toolbox

One of the more common drag-and-drop operations is to drag a thumbnail from an album and drop it onto a program icon in the toolbox. Given that the file is compatible and the program accepts command line opening of files, the file associated with the thumbnail is opened in the destination program. Dragging and dropping to one of the ImagePals GO! program icons is even more powerful, as you can drag-and-drop multiple thumbnails in one go.

Note: *Double-clicking on a thumbnail, pressing the Enter key, or choosing the Run command in the Edit menu also opens the file of a thumbnail, as long as it has the correct program association,* *(see p.87).*

Drag-and-drop to the program workspace

If you have other programs running at the same time, you can drag-and-drop thumbnails directly into the program's workspace rather than its program icon in the toolbox. (Depending on the settings in the OLE & Clipboard dialog box, see p.56, this either embeds, links or opens the file, where compatible.)

If you are working from Windows File Manager, you can:

- drag-and-drop program files (EXE) to an empty icon in the toolbox of Album to create program icons.
- drag-and-drop album files (ABM) into the Album workspace to open them.
- drag-and-drop files into albums to creates thumbnails of the files.

Notes:

- *It is important that files are dragged to the right place, e.g. albums must be dropped in an empty part of the workspace, images must be dropped into an album, and programs must be dropped onto the toolbox.*
- *When dragging thumbnails to other programs, the result is determined by the particular program. In general, if you drop a thumbnail onto a minimized program icon, or onto the program window's title bar, the program will attempt to open it. If you drop the thumbnail into the program's workspace, it may be placed into the active document as an object, or it may be opened; exactly which depends on the settings defined in the OLE & Clipboard preferences dialog box, (see p.56).*

Drag-and-drop thumbnails to albums

With drag-and-drop you can easily move thumbnails within or between albums by simply selecting the thumbnails and dragging them to their new destination. (This can be to an open album or its minimized icon.) Thumbnails moved from one album to another are removed from the first and introduced at the end of the second (or in the position determined by the album's current sort mode). If you hold the Ctrl key down while dragging, the thumbnails are copied. (The original files associated to the thumbnails are not duplicated.)

Note: *Thumbnails, when dropped into an album, change to suit the current size of the thumbnails in the target album.*

Customizing the way you work

An essential part of Album's management is that it allows you to control both the program and how the program interacts with Windows. This is done through the preferences commands in the Album: Preferences submenu. The following section describes each of these commands and details how you can use them to improve the way Album works for you:

Album

Choosing this command opens the Album dialog box. (Double-clicking on the status bar also performs the same function.) In this dialog box you can set various features related to working with files and thumbnails.

Using the ***Display Information*** group box you can change what information is displayed with each thumbnail or filename. In thumbnail mode you can choose to display the filename, subject (if the thumbnail contains a subject), or neither. Checking the ***Don't Show Thumbnail Slide*** option removes the slide around a thumbnail and only displays the thumbnail image. This is helpful when viewing a large number of thumbnails and you want to have as many as possible displayed in the current view. In filename mode you can choose to display either file attributes, keywords, subjects, descriptions or directories of files.

If you find your albums are using too much disk space, check the ***Reduce True Color to 256 Color*** option. The next time you insert thumbnails, any True Color thumbnails are automatically converted to Indexed 256-Color. (This can help reduce thumbnail size by two-thirds.) This does, however, increase thumbnail insertion time and results in poorer quality thumbnails.

Note: *Indexed 256-Color thumbnails can only be compressed using LZW compression (irrespective of the compression option selected in the Album Properties dialog box, see p.64).*

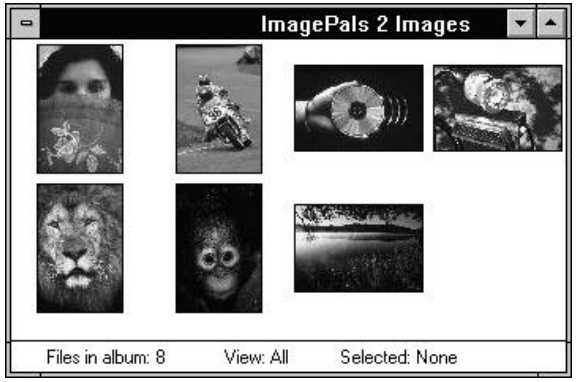
To ensure that thumbnails accurately show the current status of their associated files, leave the ***Enable Automatic Checking of Source Files*** option checked. Any changes made to a file are immediately updated in the thumbnail whenever the thumbnail is selected or the view in the album changes, such as from scrolling or performing a sort operations. Although this option doesn't require any extra memory, it may slow down processing time. Leave this option unchecked when you are certain files have not been modified, or it is not necessary to update existing thumbnails, or you wish to scroll quickly through an album without having thumbnails repaint.

Note: *If, during a check, Album comes across any missing files, a cross appears over the index number of the appropriate thumbnail. You can then choose to reinsert, relink or delete the thumbnail.*

Checking the ***Minimize on Use*** option minimizes Album as soon as you switch to or invoke another program from the toolbox. The ***Sort Thumbnails in Ascending Order*** option rearranges thumbnails into ascending order whenever a sort command is applied. Leaving this option unchecked sorts the thumbnails in descending order.

To free up as much system memory as possible, check the ***Swap Out to Disk When Minimized*** option. The next time you minimize an album, the system memory used for that album is released. (This method can help free up to 100 KB for an album containing 1000 thumbnails.)

Note: *When you swap out to disk, the memory contents of the album are saved to a file in your TEMP directory (*.$$$). Restoring the album reads that file back into memory. This may slow processing time depending on the size of this file and the current state of your system's resources.*



Displaying thumbnails in an album with no slide, filename, and subject information

OLE & Clipboard

Choosing this command opens the OLE & Clipboard dialog box providing options to control the clipboard and how Album behaves when performing OLE operations.

> **Note:** *The default settings you see here are designed to allow Album to function at an optimum when performing OLE operations or when working with image and graphics data. In most cases there will be no need to change these settings. Do so, only when you require greater control over OLE and clipboard processes.*

In the ***Formats to Copy to Clipboard*** group box, you can specify if you want Album to act as a server program when performing OLE operations, as well as defining how image and graphics data is represented on the clipboard. If you want to perform an embedding or linking operation, then you must check the appropriate OLE options, ***OLE Embedding Format*** or ***OLE Linking Format***. If neither is checked, the Paste Special command in the client program will be disabled. (If both are checked, you can decide on which option to use when in the client program.)

The two options, ***Device Independent Bitmap (DIB)*** and ***Device Dependent Bitmap (DDB)*** allow you to determine how image information is recorded when you place image and graphics files onto the clipboard. If you are on a network and share data, or want an image to appear at the same size in different resolutions, or want to maintain the color and resolution between programs, select the Device Independent Bitmap option. Checking this option also enables the ***Convert as Display Mode*** option. This converts the data type of an image (when placed onto the clipboard) to that of your current display mode, and is particularly useful if you are using a low resolution display and wish to save on system resources.

If you work on a stand alone machine, do not share data with other machines or programs, and work in the same screen resolution, then check the Device Dependent Bitmap option. This only records the minimum amount of display information necessary when using the clipboard. (You may find this option produces different results for different programs depending on how the program handles particular data structures.)

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

When performing OLE operations, you can determine how the object is represented in the client document by selecting an option in the ***OLE Representation Format*** group box. Checking the ***Source Object*** option displays the entire file in the client document. This allows you to clearly see the contents and dimensions of the object file, but does increase the client's file size and slow down its operation.

To display image or graphics objects without greatly affecting the client's file size or operation, check the ***Low Resolution Place Holder*** option. This places a low resolution version of the object file into the client document and is particularly helpful when preparing images for publication, and it is not necessary to have a good quality image displayed on screen.

If it is not necessary to display the object, or its dimensions, check the ***Thumbnail Only*** option or ***Album' Program Icon*** option, this adds the least to the client's file size and uses the appropriate icon to represent the object file.

As mentioned previously, one of Album's more powerful features is the way it uses drag-and-drop between Album and other programs. Controlling how Album behaves when you perform a drag-and-drop operation is determined by the options selected in the ***Drag-and-Drop Operation*** group box.

Selecting the ***Simulate Clipboard Copy/Paste Behavior*** option makes Album perform drag-and-drop operations as if you are using the Copy and Paste commands in the Edit menu manually. Use this option when you only wish to copy files, not embed or link them, or if the destination program cannot act as a client. If you want to embed or link files, select the ***Paste Embedded Object Into Client*** or ***Paste Linked Object Into Client*** options respectively. For general purposes, select the ***Simulate File Manager's Behavior*** option. This makes Album behave in the same manner as Windows File Manager when performing drag-and-drop operations.

Note: *If you want to embed or link an object, and are not sure which option is selected, hold down the Shift key as you drop the object into the destination program. This embeds the object, irrespective of the selection made in the OLE & Clipboard dialog box. Holding down the Ctrl key links the object.*

Photo CD

The Photo CD dialog box gives you the option of determining the resolution and data type of any photos imported from a Kodak Photo CD.

Display

The Display dialog box allows you to adjust how Album displays images. If you are working in 256-color display mode, you can select the ***View Images With a Common Palette*** option to display all images using the system palette – this provides reasonable representation of all images and makes your work quicker because the palette is shared by each image, and therefore does not repaint when you switch between 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 repainting of background images – giving you the best representation of the active image in the fastest working environment. (You cannot, however, compare images with this option selected.)

The final option present in the Display dialog box is the ***Monitor Gamma*** option which 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, see p.20.

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. Album 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; enabling you to specify more than one temporary directory from the same drive.

File Formats

The File Formats command allows you to specify which image and graphics file formats you want Album to support. When you use Album for the first time all available file formats are placed on the active list, this does, however, occupy system resources. If you only work with a limited number of file formats, then use this command to remove unnecessary formats from the active list – in turn helping free up system resources.

Notes:

- *If you have a thumbnail selected, the file format of the thumbnail's file appears with an asterisk; indicating that the format is in use. If you want to remove the format from the active list first deselect the thumbnail.*
- *The selections you make here are reflected in all the ImagePals GO! programs.*

1·2 *Managing albums*

In this chapter you will learn how to work with albums and perform standard operations such as creating, opening and printing album files. You will also find sections on using the album shelf and various maintenance commands that allow you to copy, delete, rename, move and backup album files.

Albums on a network

Album allows you to access album files on a network. For most albums, this works on a first-come first-served basis as albums (in general) can only be present in one album workspace at a time – they cannot be shared.

If you try to open an album that is already open in another user's workspace, you will be told that the album is being used by another program or user. You can only open the album if it has been removed from the other user's workspace or that user exits Album. When it is available, you can open it from the shelf.

Album allows you to view albums that are in read only directories or ones that have been made read only with the DOS "ATTRIB" command or by the ***Read Only*** option in the Album Properties dialog box, (see p.64). In fact, unlike other albums, read only albums on a network can be viewed simultaneously by multiple users. In a read only album, you cannot add or delete images, change the properties of thumbnails, or save a new user defined order.

Working with albums

Your first step on the way to managing the files on your system is arranging them into albums. At this point, it is important to remember that ImagePals GO! is a reduced version of ImagePals 2.0. As such, you can only have two albums open, either in the workspace or on the Album shelf. Also, you are limited to a maximum number of 100 files for each album. You can, however, have any number of album files.

Creating a new album

You can create an album by:

- choosing the New command in the Album menu (see procedure on the following page).
- clicking on the Album button in any of the other ImagePals GO! program's Save As dialog boxes and choose "New".
- electing thumbnails in an existing album and then choosing the Make Album command in the Edit menu.

To create a new album:

1. choose "New" from the Album menu. The New Album dialog box opens.
2. decide on an album title and enter it in the ***Title*** entry box. The title you enter appears in the new album's title bar. (The first 8 characters of the title are used to make up the album's filename. Album files are indicated with an *.ABM file extension.)
3. select a thumbnail size and compression scheme to display files in the album. The larger the thumbnail size the more memory required. For most cases select the default 80 × 80 option.

Notes:

- *JPEG compression only compresses True Color and Grayscale thumbnails, all other types are compressed using the lossless LZW compression scheme.*
- *Your compression options only affect the thumbnails and do not change the original files.*
- *The **Display Thumbnails in Grayscale** option is enabled if you are using a 16-color display and have selected **Bypass VGA Palette to Enable use of 16 Grays** in the VGA Palette dialog box.*

4. In the ***Create Album File in Directory*** entry box, type in the directory you want the album file to be saved in. Leave this if you wish to accept the default directory shown.
5. In the ***Description*** entry box type in a short description for the new album (maximum 511 characters). (Optional.)
6. Deselect the ***Continue to Insert Files*** option if you don't want to start inserting images immediately after creating the album.
7. Click on the Keyword button if you wish to assign keywords to the album, (see p.90).
8. Click OK. The new album appears in the Album workspace. (If you have selected to insert thumbnails, the Insert dialog box appears, see p.72.)

Opening album files

When you create an album, it immediately appears in the Album workspace. It stays there until you move it onto the shelf or remove it. To open albums you have removed, use the Open command in the Album menu; this returns the album to the workspace.

If you wish to open multiple album files, hold down the Ctrl key and click on the files you want to open. To open a range of files click on the first file in the range and hold down the Shift key when you click on the last file. Any intervening files will be highlighted as part of the selection. Dragging your mouse over the files achieves the same result.

Note: *You can also open albums by dragging them from Windows File Manager and dropping them into an empty part of the Album workspace or onto its minimized icon (you cannot drop them on top of a status line, toolbox, or any other open windows or icons).*

Changing an album's properties

When you create an album, you have the opportunity to define certain properties of the album such as the title and description. To modify these properties choose the Properties command in the Album menu. This opens the Album Properties dialog box which allows you to:

- change an album's title and description.
- change the thumbnail size and compression setting.
- show thumbnails in Grayscale, (for 16-color displays only).
- mark the album as read only.

Arranging albums in the workspace

During your work in Album, you may want to compare the thumbnails between albums or to better arrange your albums in the workspace. This can be done by choosing the arranging commands in the Windows menu: Cascade, Tile and Arrange Icons. Cascade “stacks” open albums beneath and to the right of each other whereas Tile resizes open albums to fill the workspace. If you have a large number of minimized album icons, the Arrange Icons command arranges these icons along the bottom of the workspace.

Closing albums

Closing an album file is slightly different than closing other files such as images and text documents. If you wish to close an album, but intend on using it later, you should place the album onto the album shelf. If you don’t want to use the album in the near future, choose the Remove command in the Album menu. This removes the album from the workspace, but does not delete the album file. To bring the album back into the workspace, you have to open it again.

Maintaining albums

When working with albums, it is easy to forget that they are in fact files, and, as files, can be managed and maintained. At this point, it is important to remember that when performing operations on album files, you are not affecting the files associated to thumbnails.

All the necessary commands to maintain album files can be found in the Album: Maintenance submenu. Many of these commands will be familiar and behave in the same manner as if using Windows File Manager. The following section describes each of these commands in greater detail.

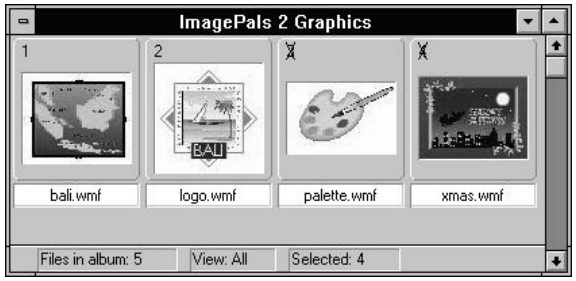
Checking a thumbnail against its associated file

If you have been using the Windows File Manager or even DOS to manage your files, you may inadvertently "break" the link between some files and their thumbnails. This can be because the original files have moved, been renamed or even deleted.

To determine if this link has been broken, use the Check command. Album then performs a cross reference between the thumbnails in the active album and their associated files. Any thumbnails whose files are found missing appear with a cross mark over their index number. These thumbnails can then be deleted if you no longer need them, or relinked back to their respective files, (see p.88).

Notes:

- *Check cannot be performed on read only albums. To take the read only attribute off an album, deselect the **Read Only** option in the Album Properties dialog box, (see p.54).*
- *Checking the Enable Automatic Checking of Source Files option in the Album dialog box automatically checks thumbnails whenever you select them, perform a sorting operation or scroll.*



After checking the thumbnails in this album, thumbnails 1 and 2 still maintain a link to their associated files, thumbnails 3 and 4 have lost their links

Moving an album file

Choosing the Move command opens the Move Album dialog box. In this dialog box you can specify a new path and directory to place the active album file. This moves the album file, not the files associated to the thumbnails in the album. To move associated files use the Move command in the File menu.

Copying an album file

Choosing the Copy command opens the Copy Album dialog box. In this dialog box you can copy the active album file to a new path and directory. This copies the album file, not the files associated to the thumbnails in the album. To copy associated files use the Copy command in the File menu.

Deleting an album file

If you want to delete an album file choose this command. This does not delete the files associated to any thumbnails. Once you have deleted a file, the operation cannot be undone, as a precaution, you may want to keep a copy of important albums stored in your TEMP directory.

Renaming an album file

Choosing the Rename command allows you to rename the active album file. When you rename the file, the title of the album remains unchanged. To change the title of the album use the Properties command in the Album menu, (see p.64).

Backing up an album file

When you back up an album, you not only back up the album file but all those files associated with the thumbnails. This serves two useful purposes; one, it creates a copy of the important files you want to keep a record of, and two, allows you to delete the backed up files to create more storage space.

If you choose to delete the original files after a backup, you can still keep a record of them by not deleting the album file. This allows you to view the thumbnails of the files in the album. (To access the files you need to restore the original album.)

To backup an album:

1. Select the album you want to backup.
2. Choose "Backup" from the Album: Maintenance submenu. The Backup dialog box opens.
3. Use the ***Directories*** list box to select the drive and directory to where you want to save the album.

Important: *ALL files in the target directory are deleted before backing up begins.*

4. If you have selected specific thumbnails to back up, check the ***Backup Selected Files Only*** option. Unchecked and all files are backed-up.
5. Check the ***Compress Files*** option to compress the files as they are backed up. (Optional.)
6. Click OK. The dialog box closes and the backup begins. (The progress of the backup is displayed in the album's status bar.)

Notes:

- *Using LZW compression, the backed up files should occupy 15%–40% less space than the uncompressed originals. Files which have already been compressed with an LZW compression schemes will not be compressed again and files compressed with other compression schemes may not be compressed very much (if at all).*
- *If it is important to achieve maximum compression, try converting all image files in the album to the JPEG format. JPEG, however, is a lossey compression scheme, as such the quality of some compressed files may not be as good as the original.*

Backing up to floppy disks

If you are backing up to a floppy disk, you will be asked to insert additional disks as they are filled up. During the backup operation, Album splits files so that disks are filled as efficiently as possible. For a rough indication of the total number of disks required to back up an album, refer to the ***Total Size to Backup*** indicator in the Backup dialog box and divide this by the capacity of your disks.

Note: *It is important that you sequentially number and label each disk used during the backup. When you come to restore the album, you will know which disks to insert and in which order.*

Restoring an album file

After backing up an album, you must restore the album to be able to use any of the files contained in it.

To restore an album:

1. Choose "Restore" from the Album: Maintenance submenu. The Restore dialog box opens.
2. Using the ***Directories*** list box, locate the drive and directory containing the album you wish to restore.
3. In the ***Restore To*** group box, select the original subdirectory or another one to restore the backed up files to.
4. Click OK. The dialog box closes, your album and associated files are restored to their specified subdirectories and the album appears in the Album workspace.

When you restore an album, any existing files with the same filename as the files to be restored are replaced. These files may be the files you originally backed-up and did not delete, or files you have since created. To avoid replacing these files you can:

- restore the album and its files to another subdirectory.
- rename or move the existing files before you perform the restore operation, (see p.85).

Note: *You can restore an album that has the same title as an existing one, as long as the filename is different or you restore it to a different directory. However, once restored, you cannot open it in Album until you have renamed, removed or deleted the other.*

Using the album shelf

Whenever you create an album, it appears in the Album workspace. You can only have to 2 albums open in the workspace at one time. If you wish, these can remain in the workspace or you can place them onto the shelf in the toolbox.

The shelf is a storage area that allows you to place albums you are not currently working on or wish to remove from the workspace. We recommend that you place excess albums onto the shelf, as this not only makes it easier to work with those albums you often use but also frees up system resources.

> **Note:** *To access files referenced in an album on the shelf, you must return the album back to the workspace.*

You can place albums onto the shelf in the following ways:

- drag an album icon onto the shelf button.
- open the Shelf dialog box by clicking on the Shelf icon in the toolbox or choose the Shelf command in the View: Options submenu, or from the menu button on the status bar. Select the album you want to place onto the shelf from the ***Albums in Workspace*** list box. Click "=>", the selected album is automatically removed from the workspace and appears in the ***Albums on Shelf*** list box.
- click on an album's control menu box (or click once on a minimized album icon) and, from the control menu, choose the Put on Shelf command.
- use the batch manager's Put on Shelf operation.

To retrieve albums from the shelf:

- open the Shelf dialog box by clicking on the Shelf icon in the toolbox or choose the Shelf command in the View: Options submenu or from the menu button on the status bar. Select the album you want to retrieve from the ***Albums on Shelf*** list box. Click "<=", the selected album is automatically moved into the workspace and appears on the ***Albums in Workspace*** list box. Clicking Close removes the Shelf dialog box and returns you to the workspace.

1-3 *Managing thumbnails*

In the previous chapter you would have learned about albums, and how albums help keep order of the files in your system. This chapter takes you one step further, explaining how to insert thumbnails of your files into albums. Once inserted you can manipulate the thumbnails and perform various file management tasks such as copying, moving, renaming and deleting.

Working with thumbnails

Once you have created an album, you can proceed to insert thumbnails of your files. It is important to remember that the original file never moves, it remains where it is on your disk. How the thumbnail is represented depends on the type of file it is linked, (associated) to. If its associated file is an image or graphics file, the thumbnail displays the contents of that file. For video and animation files, the first frame of the sequence is displayed. If the file's contents cannot be shown, as in text or sound files, the thumbnail is represented by the file's program icon or a default icon.

Inserting thumbnails of files into an album

Whether you want to insert thumbnails into an empty album or one that already contains other thumbnails, you can:

- use the Insert command from the Thumbnail menu, (see procedure on the following page).
- drag-and-drop existing thumbnails from one album to another.
- use the Acquire command in the Album menu (only available if you have an installed TWAIN device).
- click on the Album button in any of the ImagePals GO! programs Save As dialog boxes.
- drag-and-drop files directly from Windows File Manager into an album.

Note: *The thumbnail of a given file can only be inserted into the same album once. If you insert a thumbnail from the same file more than once, the original thumbnail and information are updated each time.*

To insert thumbnails of files:

1. Choose "Insert" from the Thumbnail menu. The Insert dialog box opens.
2. Using the ***Directories*** list box, locate the drive and directory containing the file or files you want to insert
3. Select the media type you want to choose from the ***List Media Types*** combo box. (Choosing a type here determines which file extensions are available in the List File Types of Media Type combo box below.)
4. Select the file extensions of the files you wish to insert from the ***List File Types of Media Type*** combo box.
5. Select the album you want to insert to from the ***Insert Files to Album*** combo box. (Optional if inserting thumbnails when creating a new album.)
6. Select the files you want to insert from the ***File Name*** list box.

Note: *You can perform a quick insert of single files by double-clicking on their filenames.*

7. Check the ***Include all Subdirectories*** option if you wish to include matching files from any subdirectories.
8. Check the ***Write Errors and Journals to File*** option if you wish to see a report created about any problems occurred when inserting the selected files. Use this if inserting a large number of thumbnails and you don't want the insertion process to be halted if any errors occur. (This is particularly useful if inserting files overnight.) If this is left unchecked, any problems that occur prompt a message box and halt the insertion process.
9. Click Insert. The selected files are inserted into the specified album. The dialog box remains open to allow you to insert more files into albums. To close the dialog box click on the Close button.

Inserting files from a TWAIN device

If you have an installed TWAIN device, such as a frame grabber or scanner, you can input images directly to an album using the Acquire command in the Album menu. Choosing this command opens the Acquire dialog box. In this dialog box you can specify the filename, drive and directory of the file to be created. Once created, a thumbnail of the file is automatically placed in the active album. (If acquiring multiple images, ensure that the last character in the filename is a number. Album will automatically add one to this with each successive input.)

When using an auto feed scanner and scanning large numbers of pages with information on both sides, check the ***Increase File Number by Two*** option at the bottom of the dialog box. In the first scan, all files are saved in consecutive odd numbers, e.g IMG0001.BMP, IMG0003.BMP... When you scan in the reverse sides of the pages, the files are saved as even numbers, e.g. IMG0002.BMP, IMG0004.BMP... This way you can be sure that the file order is identical to your page order.

> **Note:** *Before you use the Acquire command, you have to select the TWAIN device to input from in the Select Source dialog box, opened by choosing the Select Source command in the Album menu.*

Updating a thumbnail

If the file of a thumbnail was created in one of the ImagePals GO! programs, the thumbnail is immediately updated each time there is a change to the file. To update thumbnails of files generated by other programs, choose the From File command in the Thumbnail: Update submenu. This performs a check between each

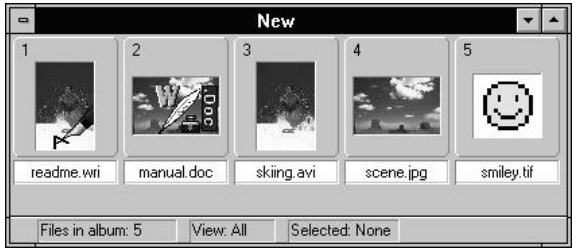
thumbnail and its associated file. If, during an update, Album comes across any missing files or broken links, a cross appears over the index number of the appropriate thumbnail. You can then choose to reinsert, relink, (see p.88) or delete the thumbnail.

Note: *If you have the Enable Automatic Checking of Source Files option checked in the Album dialog box, (see p.54), thumbnails are updated whenever selected or the view in the album change. To update a large number of thumbnails, first check this option and then scroll through the album. Each thumbnail is automatically updated as you scroll.*

Changing a thumbnail

When you first insert the thumbnail of a file it displays the contents of that file, where possible. At times you may want to change these contents, especially for those thumbnails whose contents cannot be displayed, e.g. sound and text files.

When you change a thumbnail, you replace it with image or graphics data from the clipboard using the From Clipboard command in the Thumbnail: Update submenu. With this method you can use your favorite images to represent thumbnails or customize particular thumbnails to represent particular files.



The first two thumbnails have been changed with an existing image file

Selecting thumbnails

When you perform an operation, it is applied to all the thumbnails in an album, or to selected thumbnails only. You can select or deselect thumbnails in the following ways:

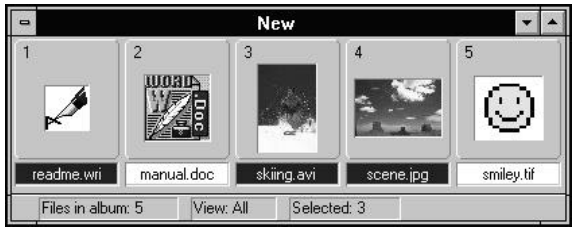
to select one, click on it.

- to select a range, click on the first thumbnail in the range and then, with the Shift key held down, click on the last.
- to select or deselect individual thumbnails, hold the Ctrl key down and click on the ones you want to add to, or delete from the current selection.
- in the Search dialog box, choose the Select option in the ***Action to Take*** combo box. Any thumbnails matching the search criteria are selected.

Using the Edit: Select submenu, you can select or deselect thumbnails with the following commands:

- *All* selects all the thumbnails in the current view.
- *None* deselects all selected thumbnails. (Clicking on an album's status bar has the same affect.)
- *Invert* selects the thumbnails which are not currently selected and deselects the ones selected in the current view. This is useful if you want to select a large number of thumbnails while wanting to exclude one or two. In such cases select the ones you do not want and then invert the selection.

Note: *If you only want to view selected thumbnails, choose the Selected command in the View menu. To display all the thumbnails again, choose the All command from the same menu or click on the view all button in the search ribbon.*



Thumbnails, 1, 3 and 4 are selected and appear with a highlighted filename

Using the clipboard

One of the easiest ways to move thumbnails is by dragging them and dropping them into other albums. Other means involve using the clipboard and the Cut, Copy, and Paste commands in the Edit menu.

Cutting a thumbnail removes it from the album and places it onto the clipboard (only the thumbnail is cut; the thumbnail's file is not affected and remains where it is). If you choose to use the Copy command, you have the option of copying the thumbnail, its associated file or filename. Copying a filename is useful, particularly if it has a long pathname and you wish to use it in any of the file access dialog boxes, such as the Open dialog box, or when referencing it in a text document.

Note: *If you want a program to automatically open the same file each time you access it, paste the file's filename into the command line of the Program Properties dialog box, accessed by choosing the Properties command in the tool button menu. If the program supports the opening of files with a command line, the file will automatically open each time you invoke the program via the toolbox.*

Pasting thumbnails into an album

The Paste command is available when the clipboard contains thumbnails that have been cut or copied from an album. In user-defined sort mode, (see p.108), pasted thumbnails are placed at the end of an album. In other sort modes they are placed according to the sort order.

Note: *If you paste thumbnails into an album that already contains the same thumbnail, the existing copy is replaced.*

Printing

Album allows you to print an album, thumbnail, associated file and keywords 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. You can access this dialog box through the Printer Setup command in the Album menu.

When ready to print, choose the Print command in the Album menu, a submenu appears with the following commands:

Album

When you want to print out information on all the thumbnails contained within an album, choose the Album command. This opens the Print Album dialog box where you can define what information to print, such as the thumbnail, file attributes, keywords, subjects and descriptions. You can print individual options or all at the same time.

When printing out thumbnails, you can determine their size in the ***Thumbnail Size*** spin box, from 1/2 an inch square to 3 inches square. To only print the currently selected thumbnails, check the ***Print Selected Items Only*** option. For the best possible representation of thumbnails, check the ***Create Thumbnails From Original File*** option. This produces a clearer thumbnail, but does slow down processing time.

Other options are also included in the Page Setup dialog box, accessed by clicking on the Page button. Here you can change the page layout, create a header and/or footer as well as choose to append any relevant file information.

Thumbnails

To print information regarding individual thumbnails choose the Thumbnails command. This opens the Print Thumbnails dialog box. When you print a thumbnail, you can include its filename, index number and thumbnail slide. You can also control how many thumbnails appear on each page as well as the size of each thumbnail.

Checking the ***Create Thumbnails From Original File*** option produces a clearer thumbnail, but does slow down processing time. To print only selected thumbnails check the ***Print Selected Items Only*** option. (This is disabled if no thumbnails are selected.) If you have not selected any thumbnails, all thumbnails in the album are printed.

Keywords

If any of your thumbnails have keywords assigned to them, you can print out those keywords by choosing the Keywords command. The Print Keyword dialog box opens. This is a useful command to use when you want to print a list to cross reference your keywords to filenames. Select the keywords to print by highlighting them in the ***Keywords to Print*** list box .

Other options are also included in the Page Setup dialog box, accessed by clicking on the Page button. Here you can change the page layout, create a header and/or footer as well as choose to append any relevant file information.

File

If you want to print out the file of a thumbnail, choose the File command. The Print File dialog box opens. This dialog box contains the following options:

In the ***Title*** entry box you can enter a title for the images to be printed. (The default, "&f", prints the file's filename.) Checking the ***Scale to Fit the Page*** option scales the file to be as large as possible on the page while maintaining its aspect ratio. With this option unselected, the file prints at the size determined by its 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.)

Note: *For some application-linked files, their associated program will be called up to the print the file. Once printed the program will then close. For example, to print a Write document, Write is opened with the selected document in the workspace; the Print dialog box also appears. Enter your print settings and click OK. The file is printed and Write closes, returning you to Album.*

Viewing

Thumbnails are a way of viewing the contents of files. You are not however restricted to viewing them in this mode only. You can view them as filenames – just like the File Manger of Windows. (You can view different albums in different modes.)

To change the viewing mode of an album, select the album in the workspace (by clicking on its title bar or icon) and then choose the Thumbnails or Filenames command from the View menu. The following provides a brief explanation of what information is displayed when you choose either of the viewing modes:

- *Thumbnails* displays the thumbnails of files from left to right and top to bottom in an album. You can also choose whether or not to display the filenames, subjects or slides of thumbnails using the Album preferences dialog box, (see p.54).
- *Filenames* displays filenames from top to bottom in the album. Depending on selections made in the Album dialog box, (see p.54), various information is displayed about each file, such as: file attributes, subject, description and pathname. (Viewing in filename mode is quicker than thumbnail mode, and requires less memory.)

Scrolling an album

Album provides several methods for locating thumbnails in an album. The most obvious is the scroll bar, which appears on the right side of the album when it is not possible to display all the thumbnails in the current view. Clicking on the scroll bar direction buttons moves the view by a single line. Clicking in the scroll bar moves the view by a page, and dragging the slider allows you to move quickly to a new location.

If you have a large number of thumbnails in an album you can automatically scroll them by choosing the Auto Scroll command in the View menu. The Auto Scroll dialog box opens. In the ***Delay Time*** entry box, type in a the time (in seconds) you want Album to wait before each scroll. When ready, click on the OK button. The dialog box closes and automatic scrolling begins. (To pause/continue scrolling, press the Space bar, to stop scrolling press the Esc key.)

If you want to go to a specific thumbnail, choose the Scroll To command in the View menu. This opens the Scroll To dialog box which lists the filenames and index numbers of all the thumbnails in the album. Selecting a filename and clicking OK automatically scrolls the thumbnails to the location of the selected filename. (Double-clicking on a filename performs the same effect.)

Performing a slide show presentation

Album provides a slide show feature which allows you to showcase your image, graphics and sound files. This includes using impressive transition effects and providing manual or automatic playing. Apart from its obvious value as a presentation tool, slide show can also serve as a personalized screen saver.

To create a slide show:

1. Choose “Slide Show” from the Thumbnail menu. The Slide Show dialog box opens.
2. In the ***Transition*** group box decide on a transition effect. To control the speed between each slide, use the ***Speed*** slider. To determine how the slide show plays the presentation, select either the ***Delay*** (in seconds), ***Synchronize With Audio Files*** (displays a new slide once an audio file has finished playing), or ***Manually With Keyboard or Mouse*** options, (use this option if you want to control the transition yourself).

3. Select other options such as: ***Continuous Repeat***, ***Resize Large Images to Fit Screen***, ***Use a Common Palette to Show Pictures*** (16-Color display mode only) and ***Hide Pointer During Slide Show***. (Optional.)
4. In the ***Attributes*** group box click on the Text, Bkgd Color and/or Bkgd Music buttons to define their respective attributes.

Notes:

- *You can only play MIDI files as background music.*
- *If you have the Synchronize With Audio Files option checked, the time specified in the Delay option is used as a pause between each audio file.*

5. Once you are satisfied with the settings, click OK. The files are loaded to memory and the slide show begins. (If you selected the Manually With Keyboard or Mouse option, the Slide Show Controls dialog box opens detailing the respective keyboard or mouse operations used to control the playing of the slide show.)

Once you have played a slide show, you may want to retain the same slide show settings for future use. To do this, click on the Save button to save your settings to file. Click on the Load button to bring your settings back into the slide show .

When you load a settings file, all the settings currently chosen in the Slide Show dialog box change to the new configuration. Once loaded, you can still change the settings to suit the particular type of slide show you are preparing, but the original file remains unchanged unless you resave it.

Viewing image and graphics files

If a thumbnail's file is an image or graphic file, you can view it using the Viewer program of ImagePals GO!, (see p.112). This is particularly useful if you want to compare multiple files at their original size, or just to see a file in greater detail. To open a file in the Viewer program, double-click on its thumbnail or select the thumbnail and choose the File command in the View menu.

Once a file is displayed in a Viewer window, you can perform basic editing functions such as copying the file, or portions of the file to the clipboard. You can then paste the data into another compatible file or use it to change a thumbnail's representation, (see p.75).

Displaying information

You can display information about the file of a thumbnail in two ways: choosing the File Information command in the View menu, or by clicking on a thumbnail with the right mouse button. Choosing the File Information command opens the File Information dialog box. Here you can find information about the attributes of the file as well as details including the filename, file format and space occupied on disk, and whether the file is read only. Clicking on the More button displays additional information about any masks, keywords, subjects or descriptions associated with the file. (Clicking the right mouse button on a thumbnail displays similar information in a pop-up dialog box.)

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

To display information about an album, choose the Album Information command. This opens the System Information dialog box. Here you can find information about the attributes of the album, thumbnails, files, and compression schemes. The description of the album is also displayed, as well as any keyword lists and mark files.

Displaying program features

The Options command in the View menu provides a submenu of commands to show and hide various features of the Album program window. These include the shelf, toolbox, mark palette and search ribbon. Choosing one of these commands hides the appropriate feature – choose it again to show it. These commands can also be found in the button menu on the left of the status bar.

Note: *The toolbox and mark palette can also be hidden by choosing the Close command in their respective menus.*

Maintaining files

Once files are represented in an album, you can manage them just as you would from Windows File Manager. This includes copying, deleting, renaming and moving files on disk. You can even convert the data types and file formats of files as well as change their attributes and program association.

All the commands to manage files are contained in the File menu. These commands behave in much the same way as those previously discussed in the Album: Maintenance submenu. The major difference being that File commands are applied to a thumbnail's file and not to the album itself. The following describes each these commands in greater detail:

Converting a file's format

The Convert File Format command lets you convert image and graphics files into a variety of different file formats. This command can be applied to individual or multiple files, sharing the same or different formats. Changing file formats is particularly useful when you want to open a file in a program that doesn't support a file's current format, e.g. changing *.TIF files to a *.BMP format so they can be opened in Paintbrush.

When you choose this command, the Convert File Format dialog box opens. In this dialog box you can select to save the converted files in the same directory, or have them saved in another subdirectory. You can also delete the original files after conversion or choose to insert thumbnails of the converted files into an existing album.

Converting a file's data type

The Convert Data Type command allows you to convert image and graphics files from a variety of data types into a common data type. This is especially useful when you are preparing a large number of images for publication, e.g. converting your images from RGB True Color to Grayscale.

When you choose this command, the Convert Data Type dialog box opens. In this dialog box you can choose the target format and destination of the files and whether to delete the original files and/or insert the new files into an existing album.

Moving files

Choose the Move command if you want to transfer the files of selected thumbnails to a new path and directory . After moving, thumbnail information is updated to reflect the files' new location.

Copying files

Choosing the Copy command opens the Copy Files dialog box. Here you can copy the files of selected thumbnails to a new path and directory. There is also an option to insert thumbnails of the copied files into a new album. (If you want to copy a file to the clipboard, use the Copy command in the Edit menu.)

Deleting files

The Delete command deletes files from disk as well as removing the selected thumbnails from their album. This command cannot be undone. As a precaution, make a back up of your files or keep a copy of your important files in the TEMP directory.

Removing thumbnails from albums

Sometimes you will want to remove thumbnails from albums. It could be that you no longer need them or that they should not have been in the album in the first place. Removing a thumbnail from an album doesn't affect the associated file on disk. If you remove a thumbnail accidentally, use the Undo command in the Edit menu or insert it again from the original file.

To remove a thumbnail, select it and choose the Clear command in the Edit menu, or press the Del key. The selected thumbnail is removed from the album.

Renaming files

Use the Rename command to change the filenames of those files whose thumbnails you select. A filename can be up to eight characters long. (It is not necessary to type in a file extension.) If you select multiple files, all filenames will change to the same name, only the file extensions remain different. (You cannot rename files that share the same file extension.)

Note: *You can use DOS wildcards when renaming multiple files. For example, the string "NEW*.TIF" will replace the first three characters of all the selected files to NEW.*

Changing a file's attributes

Choosing the Attributes command allows you to change the attributes of the files whose thumbnails are selected. These attributes can be: Read Only, Archived, Hidden or System. A read only file allows you to open the file but prevents any changes being saved to it. This is useful when sharing files over a network and you do not want anyone changing the content of your files. The archived option identifies those files, with an asterisk, which have been updated since their last backup. Selecting the Hidden attribute hides files from view and System marks files as MS-DOS system files, also hiding them from view.

Changing the association of a file

The Associate command allows you to change the association between a file and the program it was last saved in. You will want to change the association of a file when, for example, you double-click on a filename in Windows File Manager and the file opens in a different program than expected. (Such situations often happen when you use different programs to work on the same file.)

Choosing the Associate command opens the Associate dialog box. In this dialog box you specify the file extension whose program association you want to change. If you do not select any thumbnails, this command affects all thumbnail files sharing the same extension.

Relinking thumbnails to their associated files

When the thumbnail of a file is inserted into an album, it maintains a link to the location of this file. This is why you can manage files by manipulating their thumbnails. If files have been moved using DOS or Windows File Manager, or, if you remap your disk drives, Album may lose this link. Thumbnails that have lost their link appear with a cross mark over their index number. (The File command in the View menu is also disabled for such thumbnails.) If you want to reestablish this link, you can reinsert the thumbnail for the file or use the Relink command.

To relink thumbnails:

1. Select the thumbnails that need relinking.
2. Choose “Relink” from the Thumbnail menu. The Relink dialog box opens.
3. Select the drive and directory that contains the files you want to relink the thumbnails to.
4. Click OK. The dialog box closes and the relinking process begins. The thumbnails are compared against the files present at the new location, their paths are updated and, if necessary, so too are their thumbnails and information.

1-4 *Labeling thumbnails*

Albums are essentially databases that provide an easy-to-use and efficient way of cataloging and managing files. As with any database, its real worth is how it allows you to organize, label and search for information related to these files. This chapter, and the next, explain how Album achieves this by using keywords, marks, subjects and descriptions.

Defining keywords

Keywords are phrases that can be assigned to the thumbnails of files to help you conveniently group files which share common themes. For example, the keyword “Sports” can be assigned to all those files in an album that have a relationship to sports.

A keyword can consist of one word, such as “sun”, or multiple words such as “sun in Hawaii”. (When using multiple words, ensure that each word is separated by a space.)

You can define keywords in the following ways:

- choosing the Keyword command in the Album menu, (see procedure on the following page). Using this method you can easily assign the same keywords to multiple thumbnails as well as perform keyword searches.
- clicking on the Keyword button in the New Album dialog box, (opens the Keywords dialog box).
- adding it to the Keywords list in the Thumbnail Properties dialog box, (see p.96). To use the same keyword repeatedly, it is best to use the first method described above.

To create a keyword list:

1. Select the album you want to assign the keyword list to.
2. Choose “Keywords” from the Album menu. The Keywords dialog box opens.
3. In the ***New Keyword*** entry box type in a keyword. Click on the Add button or press the Enter key to add the keyword to the keywords list box. (If there are existing keywords, the Change button is also enabled. Clicking this button changes the highlighted keyword in the list to the keyword appearing in the New Keyword entry box.) To add more keywords repeat this procedure.

If you wish to adopt a keyword list from another album open in the workspace, select the album from the ***Adopt Keywords From Album*** combo box. This places the album's keyword list (if it has one) into the keywords list box.

4. Click OK. The dialog box closes and the keywords are now associated to the album. To assign the keywords to a thumbnail, use the Thumbnail Properties dialog box, (see p.96).

Note: *The total size of keywords in an album cannot exceed 65,536 characters. You can assign as many as 32 keywords to a thumbnail. Each keyword cannot exceed 31 characters.*

Saving and loading keywords

When you create a keyword list you can save it for future use or editing. To do this, click on the Save button in the Keywords dialog box. This opens the Save Keywords dialog box. Select the path you want to save the keyword file to and type in a filename, choosing either a DOS or Windows *.TXT file extension. Use Windows if you are working with Windows, DOS if you want to transport your file to a DOS application program for editing.

To add keywords from an existing keyword file, click on the Load button in the Keywords dialog box. The Load Keywords dialog box opens. Choose the appropriate keyword file and click OK. You will be asked if you want to retain the current keywords. Selecting YES adds the keywords to those currently in the keyword list box; NO replaces the current keywords with those of the file.

If preparing a large number of keywords, you may find it easier to first compile the keywords in a word processing program and then load them into an album. Doing so, you can easily edit and, where possible, spell check your work. (If using a word processing program, each keyword must be separated by a paragraph break.)

Defining marks

Marks serve as visual tags for thumbnails in albums. In a sense they are very similar to keywords differing only in implementation. Whereas keywords work "behind the scenes", marks are clearly displayed on the thumbnail slide. You will find marks particularly useful when you want to quickly navigate around an album and pin-point certain thumbnails for future operations.

Assigning marks

To assign marks you need to use the mark palette. This is a floating palette that allows you to assign up to 26 marks to a thumbnail. To move the palette drag on its title bar, or, if you are using the keyboard, choose the Move command in the mark palette control menu. Each mark is represented by a letter of the alphabet and once assigned the letter is displayed next to the index number on the thumbnail slide.

To assign a mark:

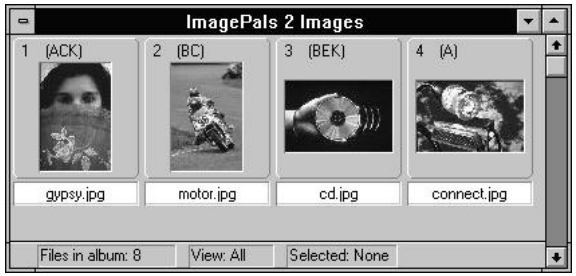
1. Open the album containing the thumbnails you want to assign marks to.
2. If the mark palette is not open, choose "Show Mark Palette" from the View: Options submenu. The mark palette opens. (The same command can also be accessed from the menu button on the status bar.)
3. Double-click on any letter in the mark palette, the Edit Marks dialog box opens. (This dialog box can also be opened with the Edit command in the mark palette control menu.)

4. Select the letter you want to assign from the ***Marks*** list box. In the ***Mark Name*** entry box type a description (up to 31 characters).

> **Note:** *You can edit and assign descriptions to any mark by simply clicking on it and then entering a description in the Mark Name entry box. If you wish to use marks already present in another album select the album from the* ***Adopt Marks From Album*** *combo box. The marks, if any, appear immediately in the Mark list box.*

5. Click OK. The dialog box closes, returning you to the Album window. The description of the mark now appears in the mark palette.
6. Click on the mark to assign in the mark palette. The View and Assign buttons are enabled. To assign multiple marks, hold down the Ctrl key and click on each mark to select it. (Clicking again deselects the mark.) To select a range of marks, click on the first mark in the range and, holding down the Shift key, click on the last. All marks in the range are selected. (Dragging your mouse over the marks performs the same function.)
7. Click on the Assign button, the Assign button changes to Stop and, when you move your pointer onto an album, the pointer changes to the mark pointer.
8. Place the mark pointer on the thumbnail you wish to mark and click once. The letter of the mark is immediately shown on the top left corner of the thumbnail slide, next to the index number. (Clicking again removes the mark.) Repeat this procedure if you want to assign the same mark to another thumbnail.
9. When you have finished assigning the current mark, click on the Stop button in the mark palette, the button changes to Assign. To assign another mark repeat steps 6 to 8. (You can assign more than one mark to the same thumbnail.)

> **Note:** *To remove the mark palette, double-click on the title bar or choose the Hide Mark Palette command in the View: Options submenu.*



Examples of marked thumbnails

Viewing marks

The advantage of using marks is that they are quick and easy to apply and you can see which thumbnails have been marked accordingly. When you want to view marked thumbnails the procedure is just as convenient.

To view marked thumbnails:

1. Open the album which contains the marked thumbnails you want to view.
2. If the mark palette is not open, choose "Show Mark Palette" from the View: Options submenu.
3. Select the letter or letters in the mark palette you wish to view.

> **Note:** *To select individual marks, hold down the Ctrl key and click on the mark to select it. (Clicking again deselects the mark.) To select a range of marks, click on the first mark in the range and, holding down the Shift key, click on the last. All marks in the range are selected. (Dragging your mouse over the marks performs the same function.)*

4. Click on the View button, the View menu opens with the commands AND, OR and View All. Choosing AND immediately displays those thumbnails that contain all the selected marks. For example, if you have selected the marks A, B and C, only those thumbnails with the marks A, B and C are displayed. Choosing the OR command displays those thumbnails with either one of the selected marks. To display all the thumbnails in the album, choose the View All command or click on the view all button in the search ribbon.

> **Note:** *To view a diverse range of marks, use the Marks command in the Thumbnail: Search by Item submenu,* *(see p.105).*

Managing marks

When it comes to managing marks in an album you can choose from a number of commands in the mark palette control menu. These commands are particularly helpful when you want to perform batch operations over a large number of thumbnails.

Performing a batch mark assignment

To assign the same mark to many thumbnails, you can mark each one individually, as demonstrated in the previous procedure, or first select them, and then use the Assign Selected command in the mark palette control menu. This automatically affixes the currently selected mark or marks to each thumbnail.

Removing marks

To remove specific marks from thumbnails, first select the marks you want to remove and then select the thumbnails you want to remove them from. Click on the control menu of the mark palette and choose the Clear Selected command. The selected marks are removed from the appropriate thumbnails. To remove all the selected marks in the active album, choose the Clear All command, (this command is disabled if no marks are selected).

Loading and saving marks

Whenever you assign a mark, it is recorded as an MRK file in the same directory of the album file. If other people share the same album, such as a Photo CD, you can send this file to them, and have them load it into their machine using the Load command in the mark palette control menu. This provides you with a convenient method of bringing to the attention of another user any thumbnails you may want to highlight. To only send the marks of a few thumbnails, select the concerned thumbnails and then save these as a new MRK file with the Save command.

Converting marks to keywords

There may be times when you would like to use the same mark as a keyword. This allows you to use the mark when performing more complex searches as well as being another way to define keywords, rather then using the Keywords dialog box.

To convert marks to keywords:

1. Select the mark or marks you want to convert.
2. Select any thumbnails you want to remove the selected marks from, (optional).
3. Choose “Convert to Keywords” from the mark palette control menu. The Convert to Keywords dialog box opens.
4. Check the ***Clear Marks From Selected Thumbnails*** option to remove the mark, or marks, from any selected thumbnails after they have been converted to keywords. Checking the ***Clear Mark Name From Palette*** option removes the mark, or marks, from the mark palette after the conversion. (Optional.)
5. Click OK. The selected marks are converted to keywords and will now appear in the Keywords dialog box. Depending on your options selected in the Convert to Keywords dialog box, the marks will also be removed, or remain unchanged, from any selected thumbnails and the mark palette.

Assigning thumbnail properties

Thumbnails, by their very manner, allow you to append a great deal of information about a file, thus making it easier to locate and identify your files. This information consists of keywords, subjects and descriptions. All of which are user-defined, fully searchable and can be applied to individual or multiple thumbnails.

As mentioned in the previous section, keywords can be used to group like files together. Subjects help extend on keywords by providing brief titles, such as “skiing in the Alps”, which add further information about the file. Descriptions on the other hand offer more detailed information about any one file, such as observations about what the file contains, date and time or any peculiarities that should be remembered for later recall.

To assign a keyword, subject or description to a thumbnail:

1. Select the thumbnail whose properties you wish to assign.
2. Choose the Properties command in the Thumbnail menu. The Thumbnail Properties dialog box opens.
3. If assigning keywords, click on the ***Keywords List*** combo box and select the keyword you wish to assign. (If the album has no keywords, or you wish to create a new one, enter its name directly.) Press Enter to place the keyword into the ***Keywords*** list box. If assigning a subject or description, type your comments in the appropriate ***Subject*** or ***Description*** entry boxes.

Note: *Keyword text cannot exceed 31 characters, subject text 127 characters, and description text 4095 characters.*

4. Click OK. The dialog box closes and the thumbnail's properties are updated.

If no thumbnails are selected, or you have selected multiple thumbnails, the Next and Go To buttons are enabled. Click on "Next" to step through the thumbnails and stop on the one whose properties you want to change. If you want to edit a specific thumbnail, click on the Go To button. The Go To dialog box opens listing available thumbnails. Select the one you want and click OK. The thumbnail now appears in the ***Information*** group box and any properties it may already have are displayed in the appropriate entry boxes.

Note: *Double-clicking on the thumbnail in the Information group box opens the file of the thumbnail in its associated program, where possible.*

Saving and loading properties

Having assigned properties, you can save these to a file and then export it to a text editing program. In this way you can easily edit and, where possible, spell check your work. Clicking on the Save button in the Thumbnail Properties dialog box opens the Save Properties dialog box. Select the path you want to save the properties file to and type in a filename, choosing either a DOS or Windows *.TXT file extension. Use Windows if you are working with Windows, DOS if you want to transport your file to a DOS application program for further editing.

At the bottom of this dialog box are the three properties options, ***keywords***, ***Subject*** and ***Description***. By default, all three are checked. If you want to save a selected property, uncheck the ones you do not require. This allows you to load only the selected property back into the original thumbnails – without affecting other property information.

Notes:

- *When you save properties to file, additional file information appears identifying the particular properties as well as the file of the thumbnail. Therefore, it is impossible to save the properties from one thumbnail and then load it into another, (without first altering the file location data manually). When you open a properties file in an editing program, it displays the following file location and properties information:*
  [c:\pals2\manual\editor\woman.tif]
  Keyword=woman, history, old English
  Subject=Woman sitting on rocking chair.
  Description=Image prepared for ImagePals GO! user guides.
- *When adding keywords to a properties file, separate each keyword with a comma followed by a space.*

1·5 *Locating thumbnails*

In the previous chapter you would have learned how to assign marks, keywords, subjects and descriptions to thumbnails. This chapter explains how you can use these properties to pin-point where in an album, or albums, specific thumbnails are located; using either the search ribbon for quick one step searches, or one of the search commands for more complex multiple criteria-based searches.

Search basics

Album brings with it a variety of commands and features to provide you with the most precise means of locating thumbnails and their associated files. In all, there are three methods you can use to perform searches. The first is using the search ribbon for quick, on-the-spot searches, the second, choosing a user defined search command from the Thumbnail: Search by Query submenu, and the third, creating multiple criteria searches with the Search, or Search by Item commands in the Thumbnail menu.

Before you begin to perform searches, however, you need to have a clear idea of some of the logic behind search operations. The following section explains this logic which will help you better understand the possibilities available when using the search facilities of Album.

Search criteria and queries

Whenever you perform a search, you must first specify what it is you want to search on (the criteria). This can be anything from keywords, filenames or data types. Once you select a criteria, you need to further define which aspect (the query) of the criteria to look for. For example, if you have chosen the criteria filenames, the query would be the filename you are looking for.

Note: *If the query consists of more than one word, you must encase it with double quotes, e.g. "New York".*

Boolean operators

One of the more powerful features of Album is its use of logical (Boolean) operators: NOT, AND, OR and ( ). These allow you to search a vast number of files quickly, looking only for specific file features. Below is a brief description of how each of the operators work:

NOT, is used to define the opposite of the indicated criteria. This allows you to isolate thumbnails whose file's format makes it a minority in the album. For example, in an album consisting largely of *.TIF files, performing a file format search – NOT *.TIF, results in all thumbnails, except those whose files are of the *.TIF format, being displayed.

AND, allows you to specify more than one criteria to search on. (Matching thumbnails must meet all of these criteria.) For example, to find thumbnails about your holiday in Spain, you could perform a subject search on – "holidays AND Spain". All thumbnails with the words holiday and Spain in their subjects would be displayed.

OR, allows you to match thumbnails that meet one or more of a specified criteria. For example, performing a filename search on – F*.* OR G*.*, will display only thumbnails whose files begin with an F or G.

( ), the parenthesis are used to group criteria together. This is particularly important if you have several queries, some of which must be paired together. For example, if you are searching on the values, A, B and C, then you could define the search as, "A AND (B OR C)", or "(A AND B) OR C". In the first example, the thumbnails must have A or either B and C. In the second example, the thumbnails must have both A and B and maybe C.

Note: *To use an operator simply double click, (or select), on the desired operator in any of the dialog boxes that support this feature. The operator appears in the Query entry box.*

Some examples of what you can achieve using Boolean operators.

Operator	Criteria	Query
	File Name	new*.tif
AND NOT	Image Data Type	Indexed 16-Color

  This query searches for all TIF files which begin with the letters NEW and are not Indexed 16-Color.

Operator	Criteria	Query
	Keyword	holidays AND “image editor”
OR	Description	“lying on the beach”
AND	Date	from 4/18/93 to 2/05/94

  This query searches for all thumbnails which have the keywords “holidays” and “image editor” or have the phrase “lying on the beach” in their description. The files of these thumbnails must be created between 4/18/93 and 2/05/94.

Operator	Criteria	Query
	Media	Image
AND	Keyword	“user guide” OR (user AND guide)
AND	Subject	“Children” [Case]
AND NOT	Description	“lying on the beach”

  This query searches for all thumbnails which are of the image media type, have “user guide” or the words “user” and “guide” as their keywords, have “Children” in their subject (matching case) and do not include the phrase “lying on the beach” in their description.

Match case and match whole word

When performing a search on text, many of the search dialog boxes allow you to “match case” or the “whole word”. Matching case tells Album to find those thumbnails matching the upper or lower case of the query. For example, to match the case of “New York”, only New York would be selected, any variations, such as “new York” or “NEW YORK” would be ignored.

Matching the whole word searches on occurrences of a defined word. For example, to match the word “man”, only man would be selected, not *man*age. If this option is left unchecked, any occurrence of the letters (not the word), *m-a-n* will be selected, such as *man*, *man*age and hu*man*.

Note: *Selecting Match Whole Word performs a search much quicker than leaving this option unselected.*

Performing a search

Performing a search can be as simple, or complex, as you want to make it. In most cases you will be performing simple, single criteria searches which are best done from the search ribbon, (see p.106). If you want more control over the search process then choose one of the search commands in the Thumbnail menu.

Some notes before you start:

- Although the search dialog boxes share similar features, it is not possible to itemize all the possible search variations here. The best method is to read the previous section on search basics, and then experiment with your own variations.
- In some search dialog boxes, you will find that the criteria and query can be very complex and involved. Try working out your search on paper first before entering it into a Query entry or list box.

- Whenever you perform a search, the search is done only on the thumbnails in the current view of the active album. If you want to perform consecutive searches, ensure that the Search Entire Album command in the Thumbnail menu is checked. (The same command can also be accessed from the menu button on the status bar.) Alternately you could click on the view all button or select the View All command in the View menu. The next time Album performs a search, all thumbnails in the album will be included, irrespective of the results of the previous search or current view.

Defining a search query

To define complex searches, or to create a user defined search, you need to access the Search dialog box. This allows you to search on any criteria and query and in any combination. If you want to search on a single criteria only, use one of the other search commands in the Thumbnail: Search by Item submenu, or select a criteria from the search ribbon.

To perform a search using the Search dialog box:

1. Open the album you want to perform the search on.
2. Choose “Search” from the Thumbnail menu. The Search dialog box opens.
3. Select the criteria you wish to search on in the ***Search Criteria*** combo box. Depending on the criteria chosen, define your query. (For multiple queries click on the appropriate operator.)
4. Click on the Add button. The query is now placed in the list box underneath. To include additional criteria, repeat steps 3 and 4. To change a query, select the query in the list box and redefine the criteria and query from the Search Criteria group box. This time, when you are ready to add the query, click on the Change button. This replaces the query selected in the list box with the new one. To remove a query, highlight it and then click on the Remove button.
5. To search all albums in the workspace, check the ***Search all Albums in the Workspace*** option.

6. In the ***Action to Take*** combo box select View, Go To or Select. View displays the thumbnails matching the search criteria. Go To indicates where in an album, with a yellow arrow, the thumbnails are located and Select selects those thumbnails matching the search criteria.
7. If you want to save the query for later use, type in a name in the ***Query*** entry box and press Enter. To remove an existing query, highlight it and click on the Remove button. To edit a query, select it from the Query entry box, the contents of the query are displayed in the list box.
8. Click OK. The search is performed and, if you defined a query, the query is saved and added as a menu command in the Search by Query submenu.

Note: *Depending on the media type and file format of the thumbnail files, some options may be disabled.*

Search by Item

If you have assigned keywords, subjects or marks to thumbnails, you can search on these criteria by choosing the Search by Item command. A submenu appears listing the following commands.

Keywords

Choosing the Keywords command opens the Search by Keywords dialog box. All the assigned keywords in the active album are displayed in the ***Keywords*** list box. Double-click on the keyword to place it into the ***Query*** entry box . To search on multiple keywords use the Boolean operators.

Subjects

To search on only the subject of a thumbnail, choose the Subjects command. This opens the Search by Subjects dialog box. Here you can type in a text string to search on the subjects of thumbnails. (If you use multiple words, ensure to place “double quotes” at the beginning and end of the string.) To aid in your search, use the Boolean operators as well as the ***Match Case*** and ***Match Whole Word*** options.

Marks

Using the mark palette is one means of locating thumbnails when working in an album. You can also locate marked thumbnails with the Search by Marks dialog box, opened by choosing the Marks command. All the assigned marks in the active album are displayed in the ***Marks*** list box. Double-click on a mark to place it into the ***Query*** entry box. To search on multiple marks use the Boolean operators.

Search by Query

Any queries defined in the Search dialog box appear in this submenu. To apply a query, simply choose its name from the submenu list; the search begins immediately. To edit or remove queries, you have to select them from the ***Query*** entry box in the Search dialog box.

Using the search ribbon

Many of the search criteria found in the search dialog boxes can also be accessed directly from the ribbon. You will find the search ribbon a much more convenient and quicker way to perform single criteria searches. To use the search ribbon, select a criteria to search on from the criteria combo box, the first on the left. The query box changes to suit the chosen criteria. In the query entry box, define your query. Click on the search button, (on the left), the search is performed and any thumbnails matching the search criteria are displayed in the album. To show all the thumbnails, click on the view all button.

The above query searches for TIF files that begin with the characters NEW

The above query searches for thumbnails with the keyword "competition"

The above query searches for files last saved between April 18, 1993 and February 5, 1994

The above query searches for thumbnails whose description contains the words "public relations"

Sorting thumbnails

When you first create an album, thumbnails appear in their order of insertion. This order can be identified by the index number that appears on the top left side of each thumbnail slide. Any new thumbnails are placed after those already present. Using your mouse, you can freely move thumbnails by dragging and dropping them anywhere within the album, changing their order accordingly. Apart from this method, there are also several sort mode commands in the Thumbnail: Sort by submenu that allow you to define the order of thumbnails in an album. They are:

- Name – reorders thumbnails alphabetically according to the filenames of their associated files.
- File Type – reorders thumbnails according to the file type of their associated files.
- Size – reorders thumbnails according to the file size of their associated files.
- Date – reorders thumbnails according to the date their associated files were last saved on.
- Media Type – reorders thumbnails according to the media type of their associated files.

- Subject – reorders thumbnails according to their subject properties.
- Description – reorders thumbnails according to their description properties.
- Others – opens the Sort dialog box which allows you to choose more media specific options such as image dimensions and resolutions.
- User Defined – makes the current sort mode the user defined mode. As such you can freely move the thumbnails with your mouse. (You cannot change the position of a thumbnail while in one of the other sort modes.)

Notes:

- *When you choose the Save Sequence command in the Thumbnail menu, the thumbnails in the album are reordered according to the current user defined sequence.*
- *To move multiple thumbnails at the same time, use the Move command in the Thumbnail menu.(This command is disabled if you are in a sort mode or there are no thumbnails selected.)*
- *You can determine the order of thumbnails, by checking the "Sort Thumbnails in Ascending Order" option in the Album dialog box (see p.54) for ascending order, or leaving it unchecked for descending order.*

Exiting Album

When you have finished your Album session, exit by closing the program window or by choosing the Exit command in the Album menu. If you have changed the order of images in an album and wish to retain the new order, choose the “Save Sequence” command in the Thumbnail menu *before* you close Album. (For a large number of albums, use the same command from the batch manager.)

1·6 *Viewer*

Viewer is a unique program that allows you to quickly "call up" image and graphics files, displaying them in individual Viewer windows. This allows you to preview and compare files as well as perform basic editing functions, such as crop and copy, without having to first invoke the program the file was originally created in.

Running Viewer

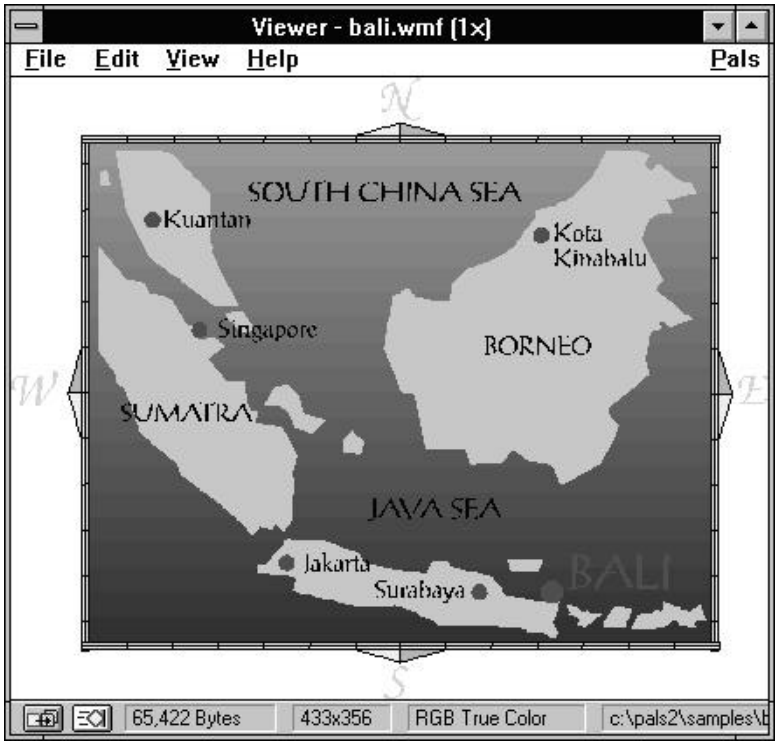
Viewer can be invoked in a number of ways:

- double-clicking on the Viewer icon in the ImagePals GO! program group. (The Open dialog box appears, allowing you to select a file to view.)
- choosing the Viewer command from the Pals menu in any ImagePals GO! program. (The Open dialog box appears, allowing you to select a file to view.)
- double-clicking on the thumbnail (or filename) of any image or graphics file in Album.
- dragging a thumbnail and dropping it onto the Viewer program icon in the Album toolbox.
- choosing the File command in the View menu of Album. (The contents of the file are displayed.)

The Viewer window

When you invoke Viewer you will see:

- An image within the workspace (the central portion) of the Viewer window.
- The status bar, at the bottom, displaying relevant file information. (Double-clicking on the status bar opens the Viewer preferences dialog box, see p.119.) Two buttons are also included on the status bar: the first button (from the left) is the switch button which allows you to switch between multiple Viewer windows. The second button is the drag-and-drop button. To drop the Viewer file into another program, first click on this button and drag your mouse. Releasing the mouse drops the image into the destination program.



The Viewer program window

Editing a file in Viewer

Although the Viewer is primarily geared towards providing a quick view of an image or graphics file, you can still perform basic editing functions such as crop and copy. Cropping discards areas of an image that are not necessary to your work. This is particularly useful if you want to isolate parts of an image or decrease file size. To perform more extensive editing, choose the Run Image Editor command in the File menu. This invokes Image Editor program with the file open in the workspace.

Note: *If you have assigned another editing program from the Viewer dialog box (see p.119), chose the Run Other Editor command. This is useful if you want to edit a graphics file in a drawing program. Alternately you can click on the drag-and-drop button in the status bar and then drag your mouse and drop the file into the program you want it to open in.*

To crop an image, drag you mouse over the area you want to crop, (the area is immediately deselected when you create another area, click the right mouse button or choose the Select None command in the Edit menu), and choose “Crop” from the Edit menu. The areas outside the selection area are discarded.

If you have made a mistake or wish to undo the command, choose the Reopen command in the File menu. This restores the image to its last saved version. To save any changes, choose the Save As command in the File menu.

Note: *After cropping an image, the drag-and-drop button is disabled.*

Using the Copy commands

There are two copy commands in the Edit menu of a Viewer window: Copy and Copy Filename. Copy duplicates the entire image or selected part, and places it onto the clipboard. Copy Filename places the full pathname of the currently displayed image onto the clipboard.

Changing the view in Viewer

When it comes to controlling the view of an image, all the necessary commands can be found in the View menu of a Viewer window. If you are familiar with the viewing commands in ImagePals GO! Image Editor you should have no problem here as these commands are identical in nature.

Actual view

Choose the Actual View command when you want to display an image with each image pixel shown by one screen pixel. This is the normal (1×) view of an image. Graphics are displayed at the size determined by your current display driver's resolution.

Zoom in and out

Each Viewer window allows you to zoom in and out on an image. Zoom In enlarges the view of the image, Zoom Out reduces the view of the image. You can zoom in one step increments from ⅛× to 8× the original size.

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 Viewer is a better method that allows you to locate these areas quickly and easily by providing a thumbnail view of the entire 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, click on the global viewer box at the intersection of the scroll bars.

Full screen

The Full Screen command displays an image at the current zoom level using the whole screen as a backdrop. (The program window, menu bar and status bar are all hidden.) Most of the functions and shortcut keys remain available. Scroll bars appear when the image is too large to be completely displayed. To return to normal screen mode press the Esc key.

Fit in window

When using any of the zoom commands the image window does not change to fit the new image size. As such there may be times when the whole of an image cannot be displayed in its window and scroll bars appear along the window border. If you wish to display the image within its window without scroll bars, choose a Fit in Window zoom command.

Note: *The maximum and minimum zoom level possible is determined by the original size of the image.*

Viewing Information

When you display the contents of a file in a Viewer window, you can access information about that file at any time by choosing the Information command in the View menu. This opens the Information dialog box which displays attribute information such as data type, width and height, resolution, and size of the image. There is also a section on file information including the filename, format, compression, whether the file can be previewed, space occupied on disk and if the file is readable.

Note: *For some file formats the above information may vary.*

Managing Viewer Windows

Viewer is a quick and efficient way to view image and graphics files, as such you can be easily overrun by Viewer windows. To control these windows, use the batch commands in the File menu: Close All, Minimize All and Restore All. Choosing “Close All” closes all Viewer windows from the screen. If you have been performing crop operations, you will be asked to save the changes made. Select No to discard changes; Yes to save the changes. Choosing “Minimize All” minimizes all Viewer windows and the “Restore All” command restores minimized Viewer icons.

Positioning Viewer windows

One of the real advantages of Viewer is that you can open multiple Viewer windows to compare different files, this is particularly useful in the Album program of ImagePals GO! where you may find the current thumbnails too small to adequately view or differentiate between images.

All the commands to control the positioning of Viewer windows can be found in the View menu. Each command is described below:

Place Viewers on Top

Choosing this command brings all Viewer windows and minimized Viewer icons to the top, obscuring any programs that may be currently open. The last Viewer window to be brought to the front is the active window. To make an individual window active, you can click on its title bar or click on the switch button on the left of the status bar. This displays a list of all Viewer windows in the workspace, choosing one makes it active.

Cascade and Tile Viewers

The Cascade and Tile Viewers commands arrange Viewer windows within the confines of your screen. Cascade places each window below and to the right of the previous. Tile resizes all viewers to fill the screen. Any minimized Viewers icons are also brought to the front.

Always on Top

Choosing the Always on Top command ensures that all open Viewer windows and minimized Viewer icons appear at the front of other programs. This is useful if you have other programs running at the same time and do not want to inadvertently change the active window. If you want to use another program first uncheck this command.

Customizing Viewer

Each Viewer window has similar Preferences commands as those mentioned in Album, i.e. Photo CD, Display, Memory and File Formats. The only unique command is Viewer. Choosing this command opens the Viewer dialog box allowing you to determine the type of format images take when placed onto the clipboard, i.e. ***DIB*** **(**Device Independent Bitmap), ***DDB*** (Device Dependent Bitmap), and ***WMF*** (Windows MetaFile).

You can also select another editing program which can accessed from the Run Other Editor command in the File menu of each Viewer window. If you work with graphics, then assign your graphics editing program here. The next time you view a graphics file and wish to perform additional editing, choose “Run Other Editor”. This opens the file in the specified editing program.

Note: *The Viewer preferences options only apply to the image in each individual Viewer window. This allows you to select different options for different images and purposes.*

Exiting a Viewer window

When you have finished using a Viewer window, exit by closing the program window or by choosing the Exit command in the File menu. When exiting a Viewer window, you will be asked to save the changes to files you may have cropped. Select YES to save the changes, NO to discard them. If you have many open Viewer windows, choose the Close All command in either of the Viewer's File menu. This closes all Viewer windows in the workspace.

SECTION 2

Image Editor

Section preview

2.1 ***Managing images,*** introduces the Image Editor program window and describes basic Image Editor functions such as creating, opening, saving and viewing image files.

2.2 ***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.

2.3 ***Making selections,*** shows you how to select areas of an image, save and load these areas as masks, and use the object pool.

2.4 ***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.

2.5 ***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.

2.6 ***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.

2.7 ***Image input & stitching,*** introduces the different sources from which you can obtain images and explains how to stitch images.

2·1 *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 descriptions about standard menu commands such as Open and Close as well as ways you can view images, information and elements of the interface.

Running Image Editor

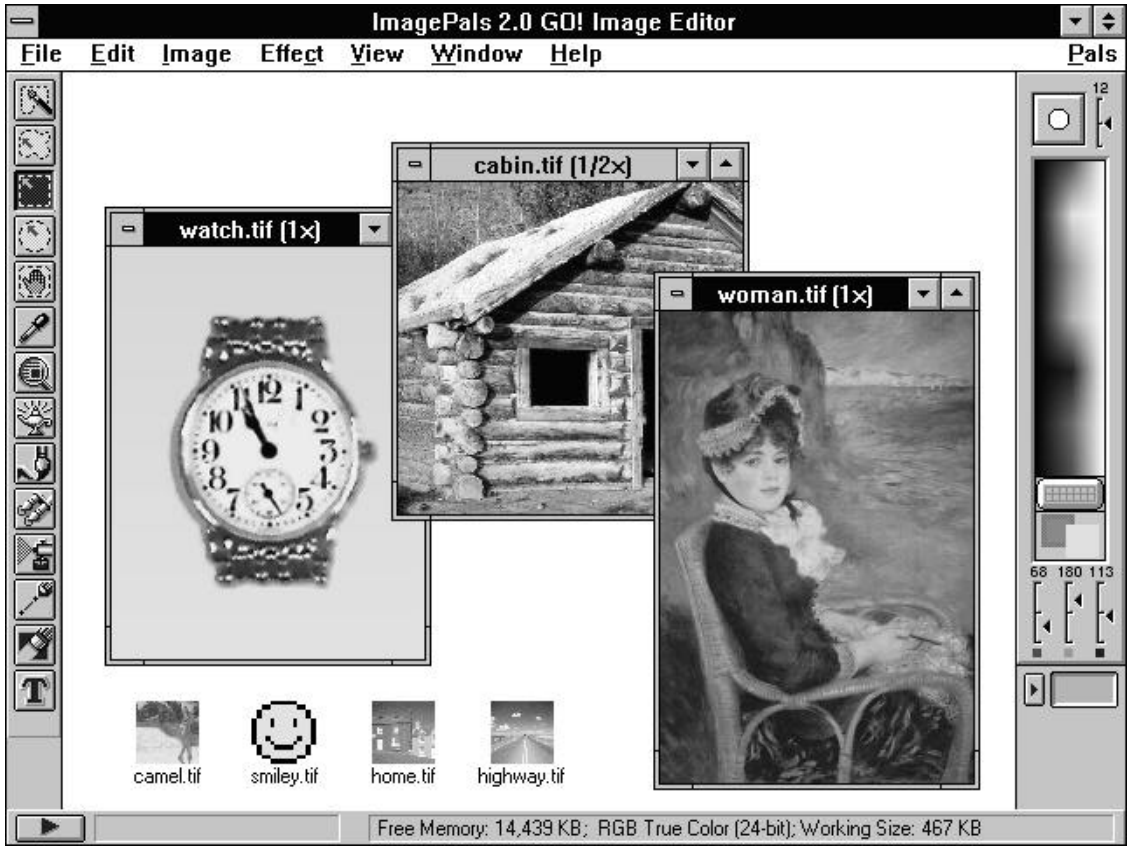
Image Editor can be invoked in a number of ways:

- double-clicking on the Image Editor icon in the ImagePals GO! program group.
- choosing the Image Editor command from the Pals menu in any ImagePals program.
- double-clicking on the thumbnail (or filename) of any image or graphics file in Album.
- dragging a thumbnail and dropping it onto the Image Editor program icon in the Album toolbox.
- dragging a filename from Windows File manager and dropping it onto the Image Editor icon or workspace.

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 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

Standard commands

All Windows programs provide some standard 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.

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.*

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, select and drag-and-drop image files in the same way as from ImagePals Album.

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.

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.
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.151) 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.

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.144).*

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.144) 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.

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.

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 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.212). This function is intended to help you calibrate your printer to reproduce images consistently.

Halftoning

Halftoning is the process of creating a pattern of black and white dots to simulate shades of gray. This enables you to print Grayscale (or color) images on single color printers and maintain the feeling of continuos tone.

The Image Editor program allows you to control the halftoning process from the Halftone dialog box, accessed by clicking on the Halftone button in the Print dialog box. (Uncheck the ***Perform Halftone by Printer*** option to enable the Halftone button.)

If you uncheck the ***High Contrast*** option in the Halftone dialog box, you can adjust the options for shape, frequency and angle. If you do not uncheck the High Contrast option, your printed image will look as if no halftoning occurred; white will appear to be very white and black to be very black.

Note: *The Halftone settings do not affect the printing of Black & White images if the images, which are being printed pixel on pixel.*

To determine the best halftone screen settings, you need to understand how variations in shape, frequency and angle settings affect the final output when printing images.

Shape

Shape determines the shape of the black dot used to construct the halftone. The most commonly used shape is Round, the default setting.

Other options such as ***Diffused*** convert the image using a predefined diffusion process. This converts the image to black or white by transferring the difference between the pixel and the midtone value (127) to the pixel on the right and beneath it. This process continues from the first row and moves to the second row and so on. This process results in an image having less concentrated areas of black, thus creating a grainy texture appearance.

The ***Dispersed*** option divides the image into small areas which contain different pixel patterns. Each pixel pattern simulate a shade of gray. The final image when outputted to your printer gives the impression of a large transition area between the shades of gray.

Frequency

The distance between the centers of the halftone dots is referred to as frequency. This value is independent of the dot size; a high frequency number produces small dots, a low frequency, big dots. As the dot size increases, a darker tone is produced, until it begins to merge with its neighbors, eventually becoming solid black.

Note: *The higher the frequency, the smoother the apparent change in tone. However, your output device and other factors in the commercial production process will impose an upper value limit on the frequency settings.*

The default, 53 lpi (lines per inch) is calculated to give you a near-optimum result on a 300 dpi printer. For lower resolution printers, use a frequency between 30 lpi and 50 lpi; for other medium resolution printers, use the default or a frequency between 50 lpi and 80 lpi; and for high resolution printers choose a frequency between 90 lpi and 150 lpi. If you set the frequency too high, the printer will not be able to reproduce the image properly thereby losing image and causing the output of the image to be darker than expected.

Output for commercial production

If your work requires outputting to a high-resolution imagesetter to produce black-and-white artwork for commercial reproduction, it is best to first consult your commercial printer manual to determine a range of acceptable screen frequencies.

If you output onto bromide (light-sensitive paper), reduce the frequency by between 20 and 40 lpi because some information may get lost or distorted because your commercial printer has to produce film from your bromide. Reducing the frequency increases the size of the halftone dots, thus reducing distortion.

To print quality results whenever possible, you should output to film. It is important that the film is the right way round. One side of the film is coated with photographic emulsion which is the side that your image is produced.

After receiving the film, the commercial printer places it in direct contact with a light-sensitive printing plate and exposes the plate. If the emulsion is on the wrong side, the thickness of the film will diffuse the halftone dots enough to cause visible distortion to your image. So, first ask your commercial printer if they want the image “right reading, emulsion down”, or “wrong reading, emulsion down”; then your service bureau should be able to change the way the film is exposed to suit the commercial printer’s requirements.

Angle

The ***Angle*** option determines the angle of the halftone screen. The default angles are industry standard, but they can be adjusted for different images.

For Black & White output, if you select 90°, the dots occur in vertical columns evenly spaced across the image. If your image contains near-vertical or vertical lines, a 90° screen may produce a disturbing effect. The default (45°) is most commonly used because it rarely conflicts with elements within images.

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.144) 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.*

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.

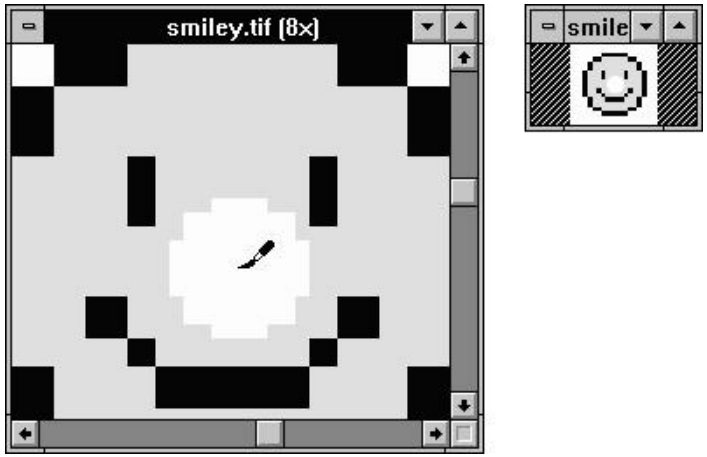
Viewing

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.

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)

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 and the zoom tool

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 (up to 8× the actual view). To reduce the view, (up to ⅛× the size of the actual view), choose the Zoom Out command.

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.
- 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.*

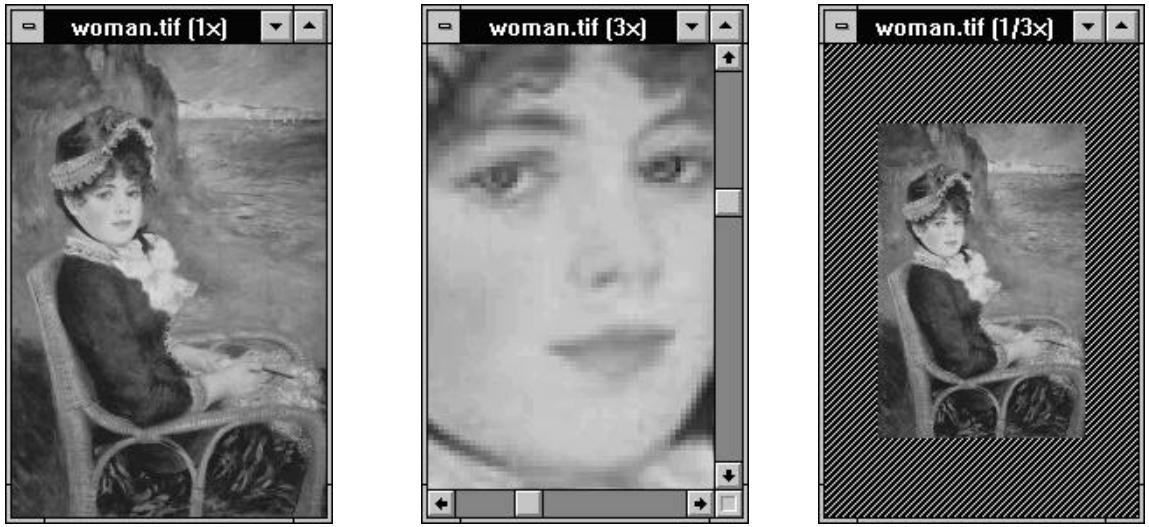


Image at actual view 1x, enlarged to 3x view and reduced to a ⅓x view

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.

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

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.

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.

2·2 *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.

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.

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.

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.151).

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.*

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.

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.

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

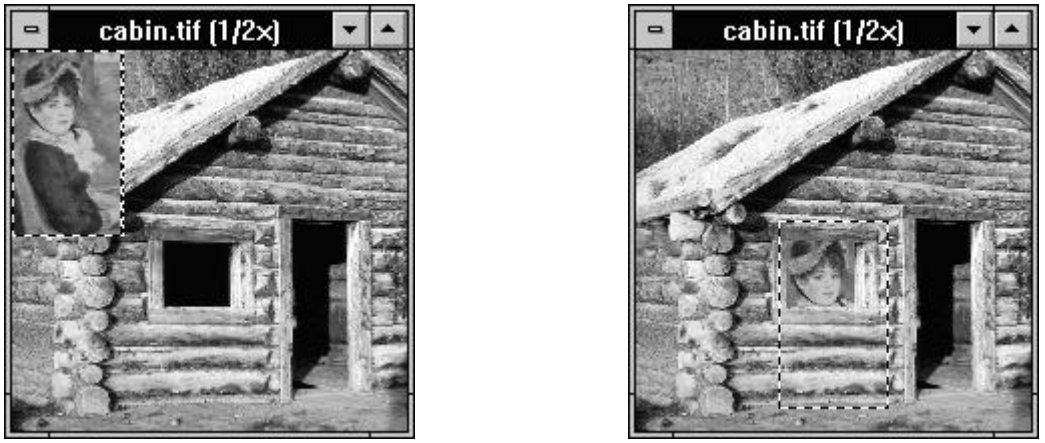
Using the As Selection command places the clipboard image at the top left corner of the current view. (You can freely move the image by dragging on it with one of the selection tools.) If you want to position the clipboard image at a specific point in the image prior to pasting, use a selection tool 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)

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.*

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.

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.*

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.) Hold down the M key as you drag-and-drop to create a Grayscale image containing the selection mask (for more about masks see p.170).

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.170). 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.

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.

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 Files 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.*

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.

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.*

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.

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, see p.20

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.

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).

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.*

2·3 *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.

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 you move 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 with Preserve Image Under Selection disabled (left) and enabled (right)

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.145).

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.

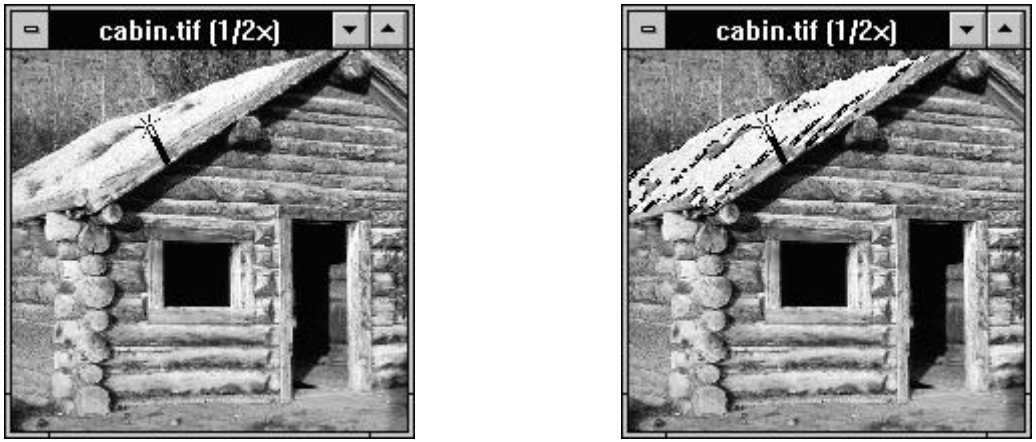
Selecting an area of similar colors

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.

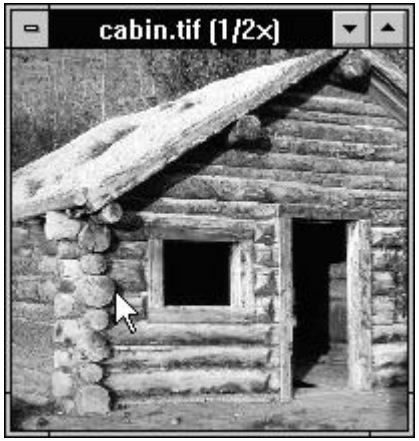


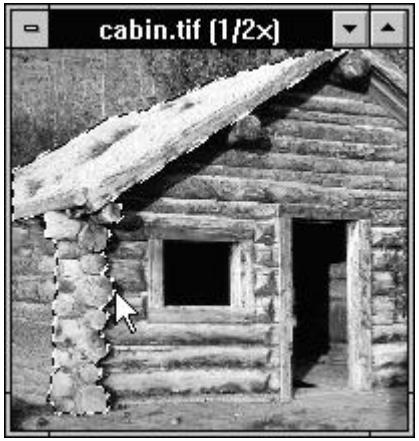
Using the magic wand tool to select an area of similar colors

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.*





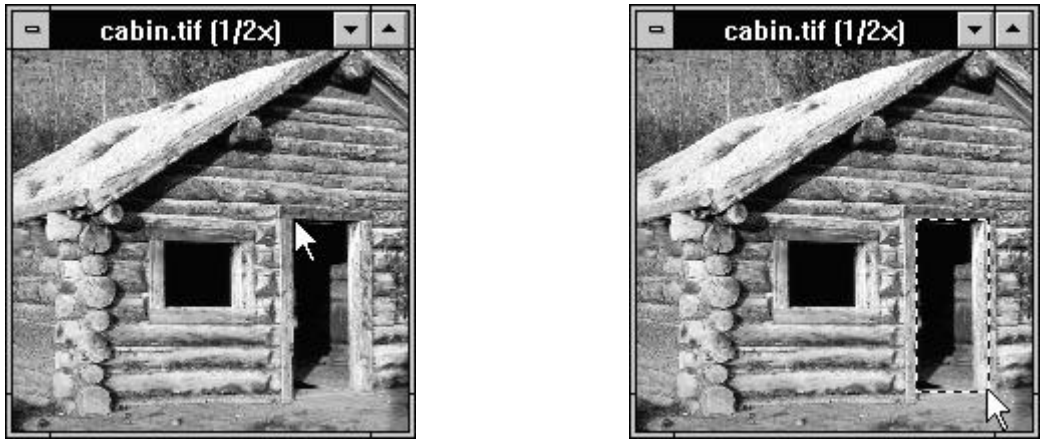
Using the freehand tool to select an irregularly shaped area

Square and circular areas

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.



Using the rectangular tool to select a rectangular area

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 becomes 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.*

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

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)

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

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

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.*

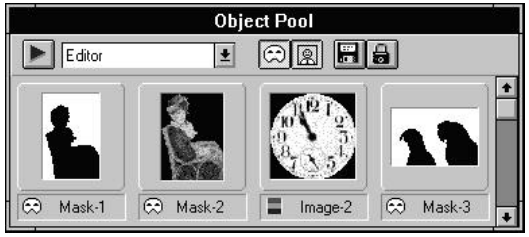
Merging a floating selection (25% transparency) with the underlying image

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

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.154).*

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.129).

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).*

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 in 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.

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.*

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.*

2·4 *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.

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.*

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.*

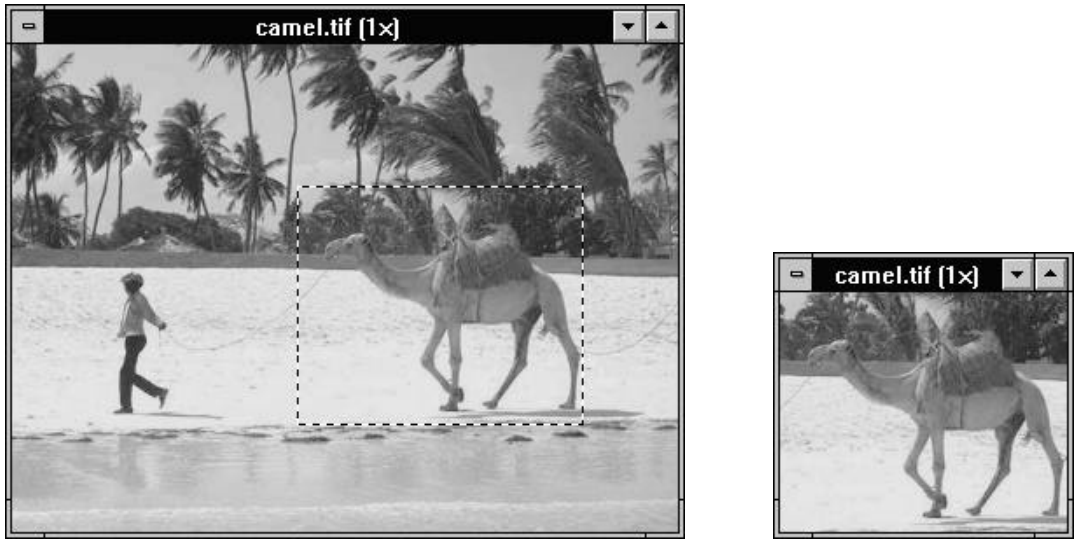


Image with area selected before cropping and, on the right, after cropping

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.

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.

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

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.

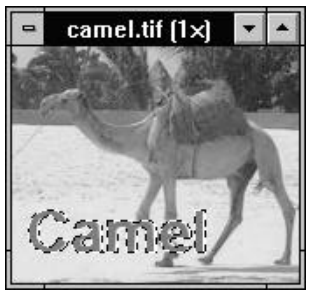
Slanting a selection area

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.

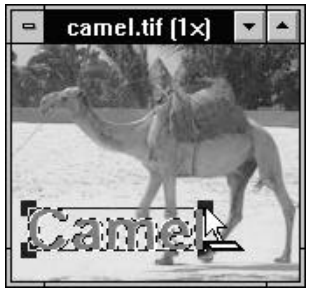
To slant a selected area:

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.

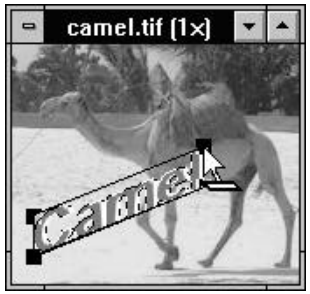
Note: *If you slant a selected area with the Shift key held down, you can move a single handle of the area. To create a perspective effect, slant two adjacent corners of an area in opposite directions.*



1. Select area within image



2. Choose "Slant"



3. Drag handle to slant

Distorting a selection area

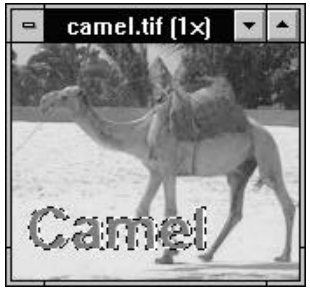
Distort produces a similar effect to Slant except that it allows you to move each marquee handle independently and in any direction. Once you drag and release the mouse, the contents of the selected area are resized to fit the new shape. Although Distort uses a rectangular selection area, you can curve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

To distort a selected area:

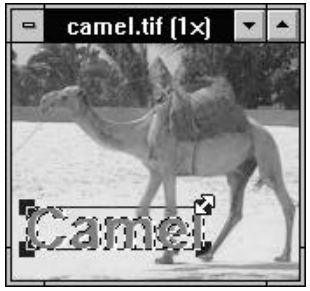
1. Select the portion of the image to distort.
2. Choose "Distort" from the Effect menu. Handles appear at each corner of the selection marquee.
3. Drag one of the handles in the direction you want to distort. (Clicking outside a handle removes the selection marquee. You can undo the action but need 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.

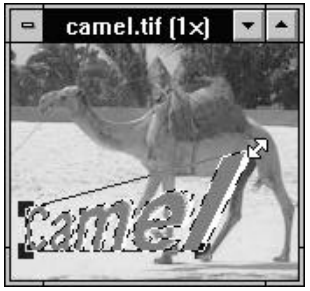
Note: *Holding down the Shift key as you drag each handle prevents the selection area from resizing. When the handles are in the correct position, release the Shift key and click on any handle to resize the contents.*



1. Select area within image



2. Choose “Distort”



3. Drag handles to distort

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:	Opt.
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

Converting from 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.

Converting from 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.

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.

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.

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.*

2·5 *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.

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.

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.

Using 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.

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. 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.

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.195).

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 back 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.*

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 the installation 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.*

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. 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.)

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

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.

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.*

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.*

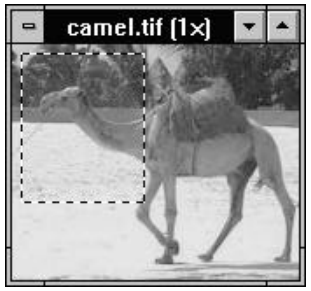
Using the magic lamp

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.

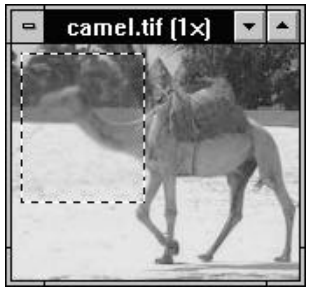
Notes:

- *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.)*

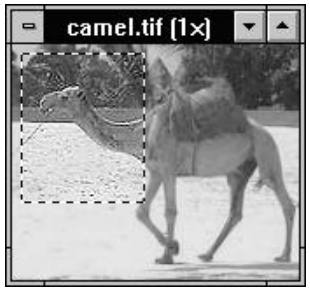
Examples of magic lamp effects



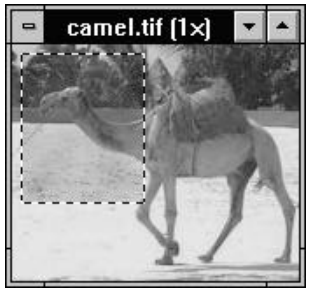
Original image



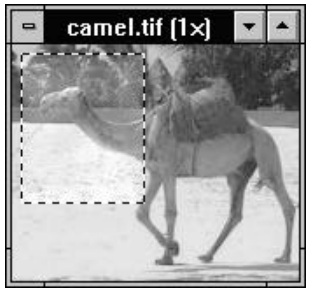
Blurring



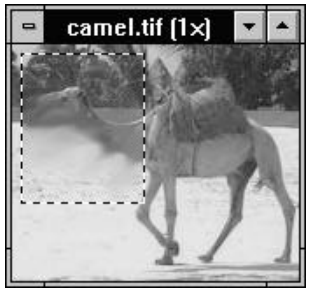
Sharpening



Darkening



Lightening



Smudging

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.

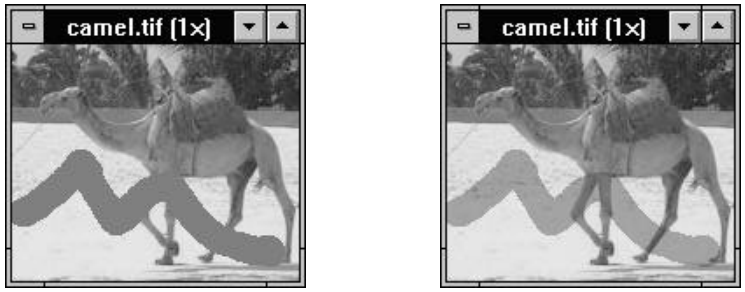
Double-clicking on the paintbrush icon in the tool bar opens the Paintbrush dialog box containing the following options:

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 (left) and painting with just the Hue and Saturation of a color (right)

Cloning parts of an image

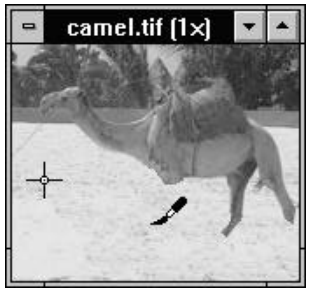
Cloning allows you to copy part of an image to another area in the same image or to another image of the same data type.

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.*



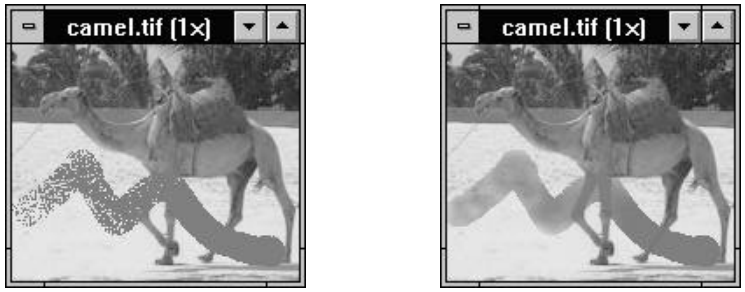
Cloning an image

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)

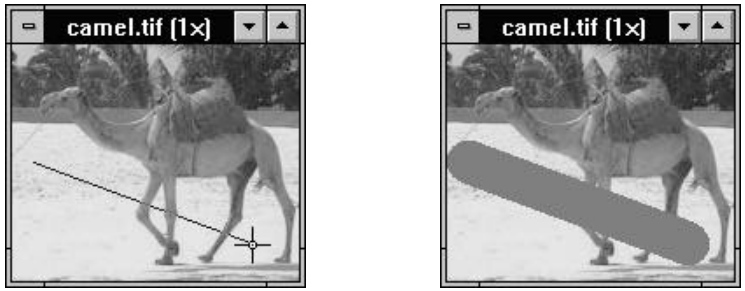
Painting straight lines

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.203).

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



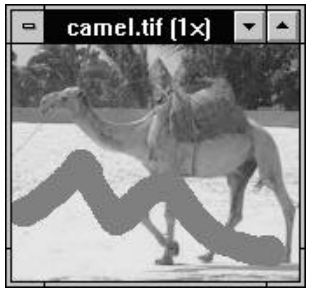
Painting a straight line

Erasing colors

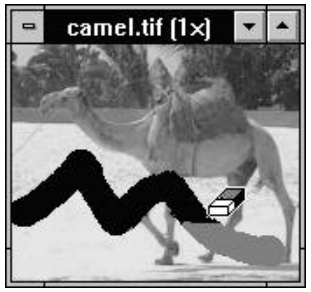
The eraser tool replaces areas of an image with the current background color. You can choose to replace all the colors that the tool passes over with the background color or just replace the foreground color only. (Use the left mouse button to erase, if you use the right button there is no effect.)

To use the eraser tool:

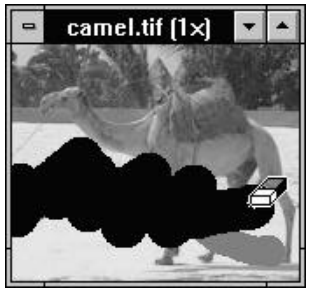
1. Select the image or area you want to erase.
2. Choose the color you want to change as the foreground color and the replacement color as the background color.
3. Double-click on the eraser icon in the tool bar. The Eraser dialog box appears.
4. Select the ***Erase Foreground to Background Color*** 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)

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 (for Grayscale and RGB True Color images only) to make 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.

2·6 *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.

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.*

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 accordingly.

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.

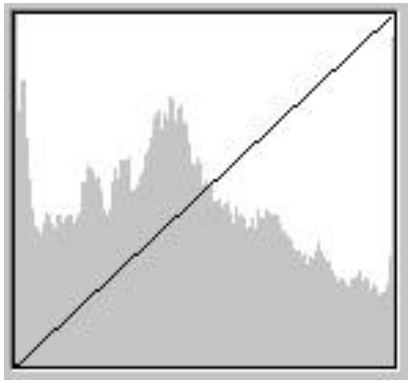
Changing the ***Midtone*** allows you to adjust midtone pixels without affecting the highlights and shadows too much. Drag to the right to lighten the midtones; to the left to darken them.

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

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* ***Accumalatively*** *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.*

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.*

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.

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).

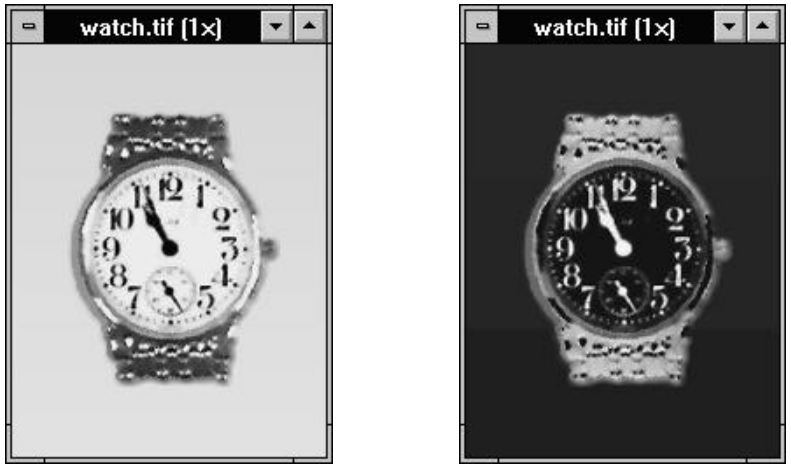


Image before and after inverting

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.*

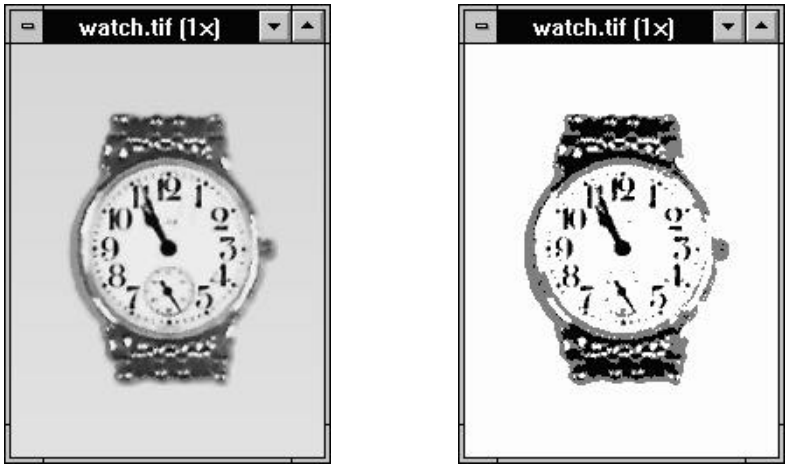


Image before and after reducing the number of displayable colors

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.

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.

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

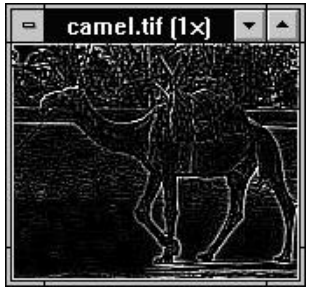


Image after find edges has been performed

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.*

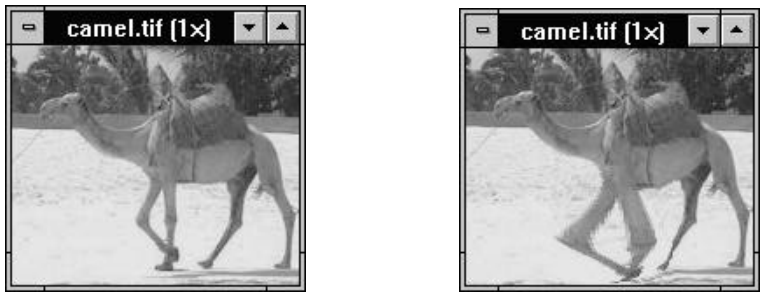


Image before and after warping

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 value. 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.177 to resize the image accordingly.

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.

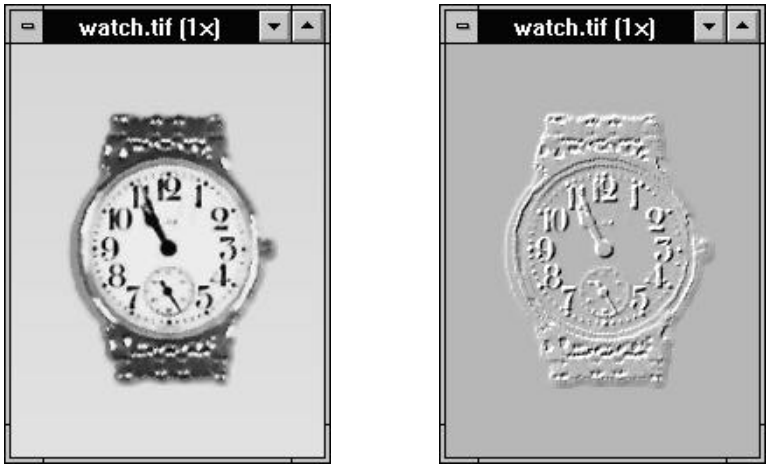


Image before and after embossing

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.

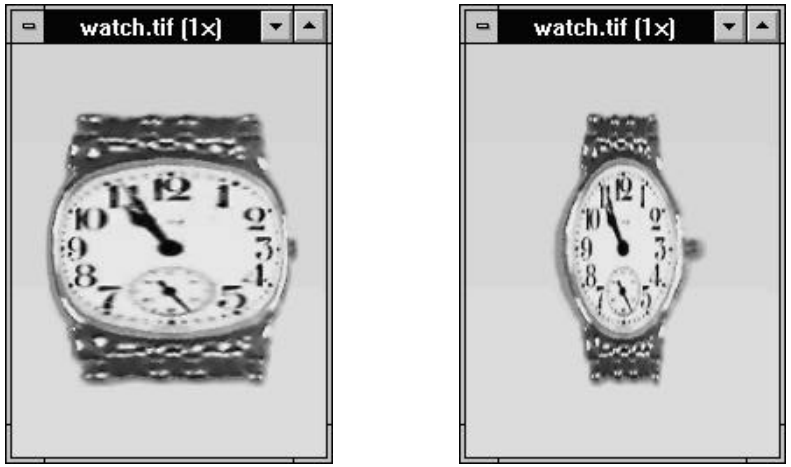


Image made fatter (on the left) and thinner (on the right)

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.*

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.

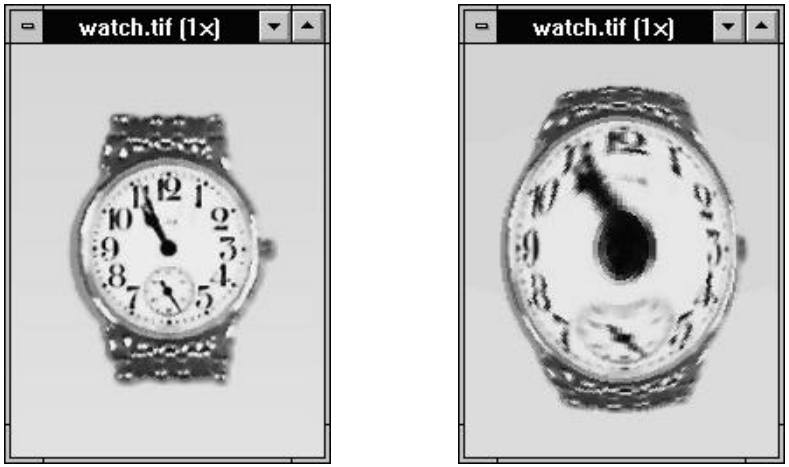


Image before and after applying the fish eye effect

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.

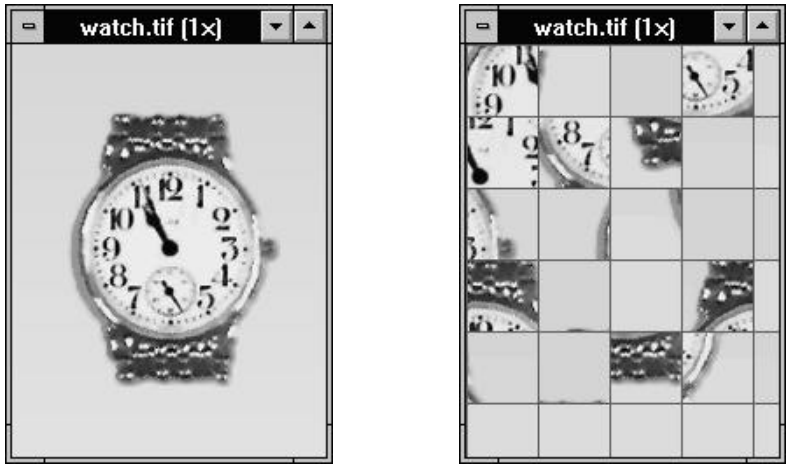


Image before and after applying the puzzle effect

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.)

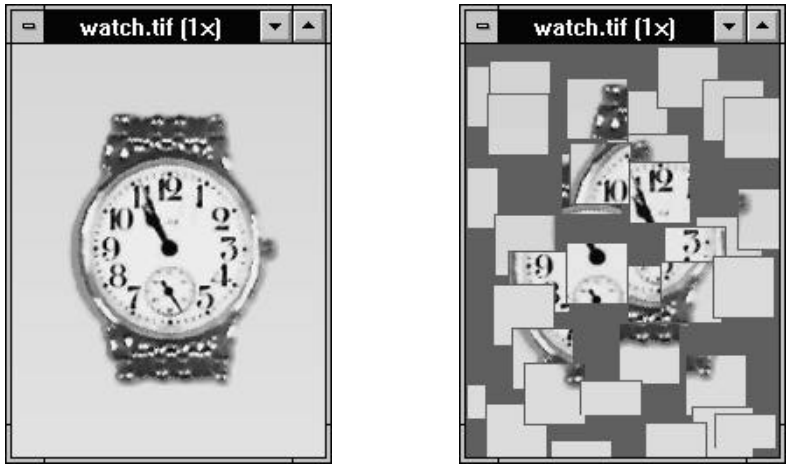


Image before and after applying the tile effect

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.

2·7 *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.

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.*

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.

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.214) Tone Adjustment (see p.210) Tone Mapper (see p.212) 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.

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.

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.

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.*

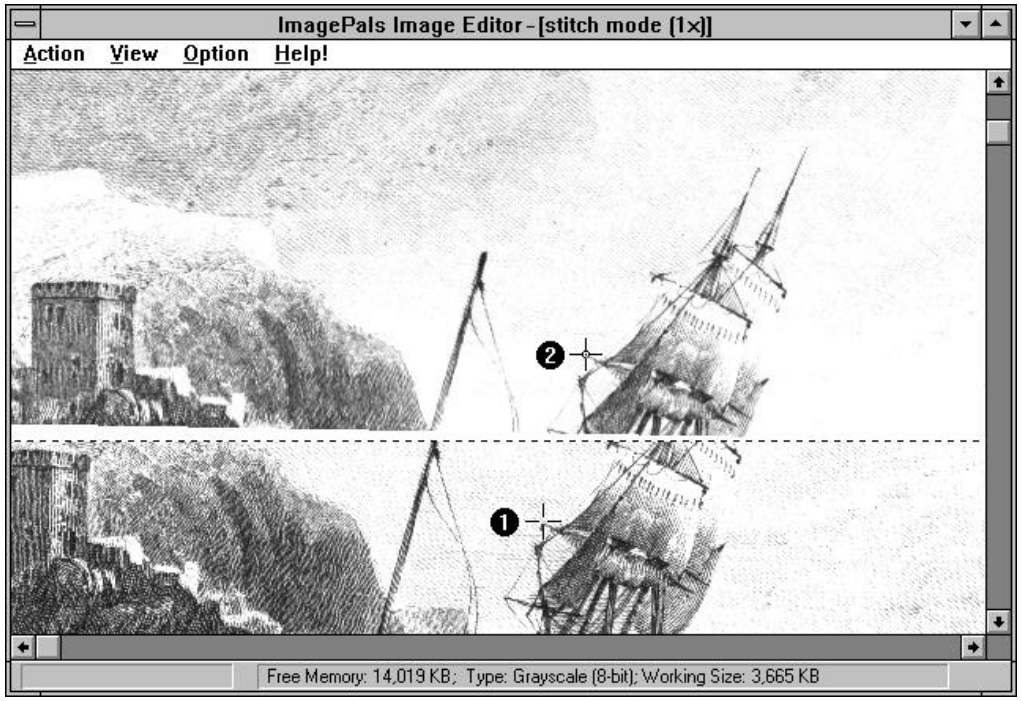
Help! menu bar command provides you with direct access to help on the stitching process.

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.

Note: *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

Glossary

Aspect ratio

The ratio of width to height in an image or graphic. Keeping the aspect ratio means any change to one value is immediately reflected in the other.

Averaging

A filtering process which takes the gray/color value of each pixel and averages it with the values of surrounding pixels. The value of each pixel is then replaced with the averaged value.

Bit

The smallest element of a computer's memory. Among other things, bits are used to record the color values of pixels in an image. The more bits used for each pixel the greater the number of available colors. For example:

1-bit: each pixel is either black or white.

8-bits: each pixel can be any one of 256 colors or gray shades.

16-bits: each pixel can be any one of 65,536 colors.

24-bits: each pixel can be any one of 16.7 million colors.

Bitmap

An image made up of a collection of dots or "pixels" arranged in rows.

Black & White image

An image that only contains black and white pixels.

Brightness

The brightness of an image is a description of how much light appears to be emitted from it. An absence of light, (black), has zero brightness; pure white light has maximum brightness.

Channel

Refers to one of the components of a color model. Different color models use different components to represent image colors. The RGB color model uses red, green and blue color component channels. The HSB color model uses hue, saturation and brightness color component channels. (Grayscale images can be thought of as single-channel images.)

Client programs

A program which accepts embedded or linked object files.

Clipboard

A temporary storage area shared by all Windows programs used to hold data during cut, copy and paste operations. Whenever you place new data onto the clipboard, it immediately replaces the existing data.

Cloning

Replicating one part of an image within or between different images.

CMYK

A color model in which each color consists of varying degrees of the colors cyan, magenta, yellow and black.

Color model

A color model is a way to mathematically describe and define colors and the way they relate to each other. Different color models exist, each of which has a specific purpose; the two most common color models are the RGB and HSB. (See HSB, RGB.)

Complementary color

Complementary colors are opposite in value to primary colors. For example, cyan, magenta and yellow are complementary colors of red, green and blue.

Compression (file)

A method for making files smaller in size on disk. There are two types of compression: lossless and lossey. Files compressed with a lossless scheme can be restored to their original state. Lossey schemes discard data and so images, when decompressed, may show quality degradation. The ImagePals GO! programs support schemes of both types depending on the format of the file.

Contrast

The contrast of an image describes the difference between light and dark. In an image with high contrast the transition from dark to light is very clear; in an image with low contrast, the difference between light and dark is not so obvious.

Conversion (file)

The process of changing from one file format into another.

Data type

The way an image is internally described and represented by a computer. The data type of an image controls the amount of information that the image can retain and therefore its displayed appearance. The ImagePals GO! programs read and write to the following types: Black & White, Grayscale, Indexed 16 and 256-Color, RGB True Color and CMYK True Color. RGB 8-Color images can also be read but they are automatically converted to Indexed 16-Color.

Dithering

Methods of making images with limited colors available appear to contain more. Most notably for making Black & White images appear to contain near-continuous changes in tone (gray shades). By arranging pixels of different colors close together, dithering can simulate colors not directly supported by an image data type.

Dots per inch (DPI)

A unit of measure for screen and printer resolution that represents the number of dots a line can print or display per inch.

Embedding

To create a copy of an object from one program, a server program, in the document of another program, a client program. The embedded object retains a copy of the object's native data and a link to its server program which may be edited directly from the client. (see Link, OLE.)

Export

The process of transferring information from one program to another.

File format

The ways in which a computer stores images or information on a disk.

Filters

Algorithms that manipulate the values of pixels to produce special effects.

Graphics file

A file whose data is composed largely of vector graphics. Vector graphics do not have a basic component, like a pixel, but are defined as lines between points, and fills between lines.

Grayscale

Something that contains solely shades of gray. For an image this normally means 254 different grays plus black and white: 256 “grays” in all.

Halftoning

A method of using a pattern of black and white dots to produce what appears to be shades of gray. This is a common form of dithering.

HiColor

For images, this normally means a 16-bit (5-6-5) data type that can contain up to 65,536 colors. TGA file formats support images of this type. Other file formats require prior conversion of a HiColor image into True Color. For displays, HiColor normally refers to 15-bit (5-5-5) display adapters that can display up to 32,768 colors.

HSB color model

A color model that specifies colors in a way that is easier for us to visualize than the RGB model. H in HSB represents the hue, or basic color; S represents the saturation, or purity of the color; and B represents the brightness, or amount of light the color appears to emit. (See Saturation, Brightness)

Hue

The hue of a color describes whether a color is basically red, orange, yellow, green, turquoise, etc. In ImagePals GO!, the Hue is specified in degrees (from -0° to 359°.)

Image

In computing terms, an image is picture that is represented on screen as a collection of “dots”. (See Pixel.)

Import

The process of incorporating information from one program into another.

Indexed-Color

An Indexed-Color image is represented by each pixel having four bits (16-Color) or eight bits (256-Color).

Linking

To create a reference in the document of a client program to an object in a server program. The linked object can be edited directly from within the client program. When the object changes in the server program, the changes are automatically reflected in the client program.

Mask

A mask is a selection marquee. This marquee can be defined by a selection tool or generated from the contours of a Grayscale image.

Object (OLE)

An object is data that is created or edited in one program and then placed into a document of another.

Object Pool

A storage area used in Image Editor that allows you to store, browse or retrieve image and mask objects.

OLE (Object Linking and Embedding)

A function developed by Microsoft as a means of transferring and sharing information (objects) between programs. OLE differs from cut, copy and paste operations in that the object in the client program retains a link to the server program it originated from.

Pixel

The smallest unit in an image. Computer images are made up of rows of pixels, each of which can be a different color. Pixels are normally so small that you see the image created by a collection of them.

Prime colors

The prime colors are the basis of the RGB color model: red, green, and blue. With different amounts of each of these colors, on screen, it is possible to create any other color.

Raster (see Bitmap)

Resolution

The resolution of an image determines the size of the individual pixels in an image and thus the size of the whole image. Resolution is shown in pixels per inch (ppi) or dots per inch (dpi).

RGB color model

A color model used to define colors by specifying the red, green, and blue components of colors. This is one of the standard color models used to specify and record colors on a computer. (See Color model.)

Saturation

Saturation defines the purity of a color. A color with a high saturation appears very intense and strong; a color with a low saturation appears washed-out.

Server program (OLE)

A server program allows you to take objects from it and place them into a document in another OLE client program. Album and Image Editor can both act as server programs. (see Client, OLE.)

Thumbnail

A small, low-resolution representation of an image.

True Color

Something that can display enough colors to appear “True” to life. For an image this normally means 24-bit color, providing up to 16.7 million colors. (See Bit.)

Vector graphics (see Graphics file.)

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