

# **1.0** *Morph Editor* **User Guide**

*Ulead Systems, Inc.*  
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#### ***Sample image files***

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### **Ulead Systems, Inc.**

#### ***United States Headquarters:***

970 West 190<sup>th</sup> Street, Suite 520  
Torrance, CA 90502

*Tel: (310) 523-9393*

*Fax: (310) 523-9399*

#### ***International Headquarters:***

12F-A, 563 Chung Hsiao East Rd  
Section 4, Taipei, Taiwan, ROC

*Tel: (+886 2) 764-8599*

*Fax: (+886 2) 764-9599*

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- ***Welcome to Morph Editor***

*Morph Editor is a fun, easy-to-use program that allows you to take an image and then transform that image, or part of it, into another. By animating this transformation process, you can create a video sequence which shows the original image growing out of, or into, the other – such as a man from a woman or a bird into a plane.*

*To add an even greater impact to your morphing work, Morph Editor comes equipped with a range of advanced special effects and filters that can enhance and improve your images, turning otherwise standard morphs into stunning and eye-catching presentations.*

## **How to get the most from Morph Editor**

Reading this guide is not the only way you can learn about Morph Editor: the *ReadMe* file contains technical information and anything that came to light after this manual was produced, 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 most dialog boxes.

The following provides a brief overview of the contents for each chapter in this guide:

1. *Getting started*, introduces the Morph Editor program window and provides a reference to the menu commands and tools.
  2. *Morph Editor basics*, describes the basic commands and features of Morph Editor such as opening and closing morph files, recovering from mistakes, resizing images and how to customize Morph Editor. If you are already familiar with morphing concepts and using Windows, you may wish to skip this chapter.
  3. *Morphing*, focuses on how to generate a morph video sequence and provides background information on placing control points and lines, common morphing techniques and a look at the range of special effects and filters.
- *Index*

# 1 *Getting started*

*This chapter is designed to get you up and running with Morph Editor as quickly as possible. After the introductory section there is a brief explanation of the menus, as well as tables referencing where in this guide you will find descriptions about menu commands and tools.*

# 1.1

## Running Morph Editor

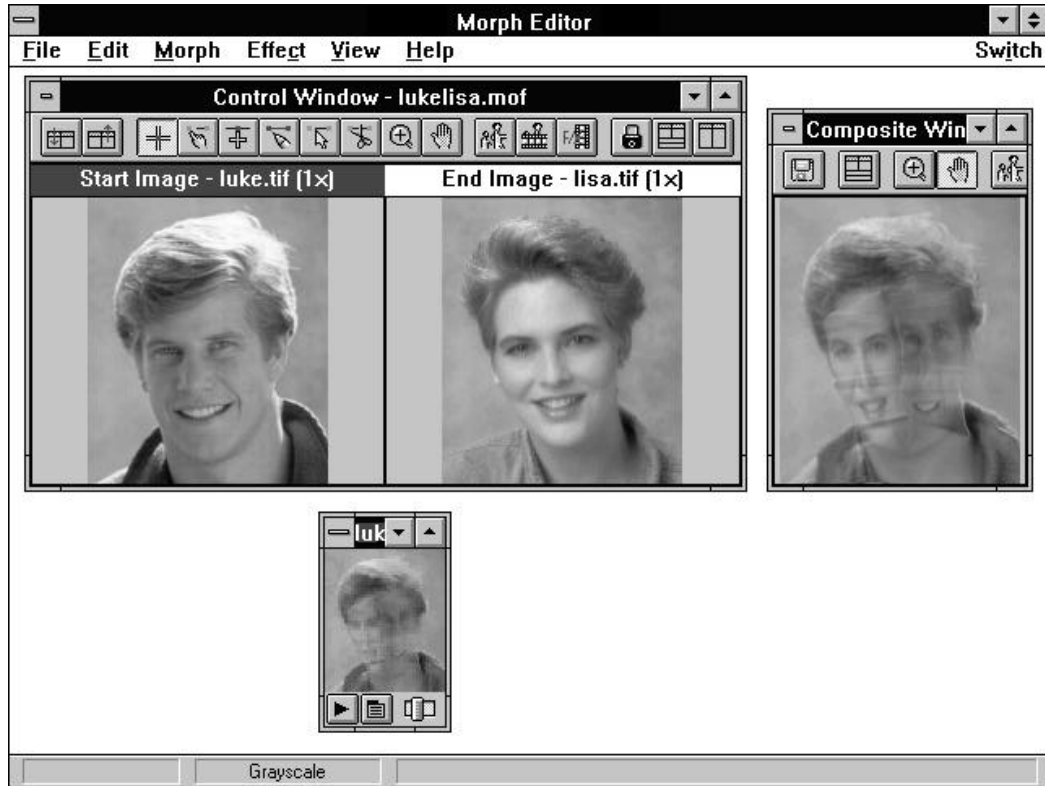
To run Morph Editor, you first need to locate the Morph Editor program icon. If you followed the suggestions made by the installation program, the Morph Editor icon will appear in the Morph Editor program group.

### 1.1.1 The Morph Editor window

When you run Morph Editor you may see:

- A control window containing both start and end images.
- A composite window containing a preview composite image of the start and end images.
- A video window displaying an existing video sequence.
- The status bar, at the bottom, displaying information about the active image and the current cursor position. (Double-clicking on the status bar opens the Morph Editor preferences dialog box.

GETTING STARTED



*The Morph Editor program window*

# 1.2

## The Morph Editor menus

One of the most common methods of performing operations is to choose a command from a drop-down menu in the menu bar. Some of the more important commands also have a corresponding button in either the control or composite window toolbars.

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

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

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

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

## **2** *Morph Editor basics*

*This chapter covers some of the more common functions you will use when working with images and the Morph Editor program, such as the Open, New, and Undo commands; there are also sections on resizing images and how to customize Morph Editor. It does not detail the morphing process, which is left for the following chapter, but does provide useful information if you are new to morphing and working in a Windows environment.*

# 2.1

## Standard menu commands

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

### 2.1.1 Opening morph files

After installation you will find a sample morph file (MOF) in the SAMPLES subdirectory under your installation directory. To open this file, or any other morph file, choose the Open command in the File menu. The Open dialog box appears. To open the sample 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 Morph Editor workspace.

You can also open files you have recently been working on by choosing their names from the list at the bottom of the File menu. The number of filenames that appear is controlled by the Morph Editor preferences dialog box.

#### Notes:

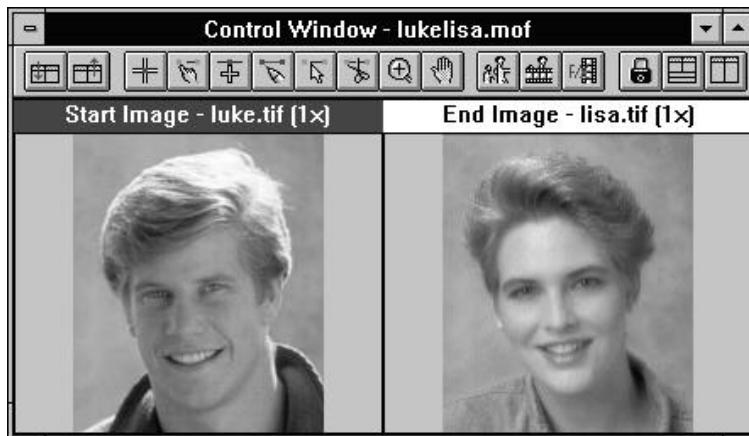
- *If you open a morph file whose start and/or end images have been altered in another editing program, the original control settings may no longer be compatible.*
- *You can have several instances of Morph Editor open at the same time; however, only one morph file can be displayed in each program window.*

## MORPH EDITOR BASICS

Morph files are displayed in the *control window*, which consists of two image windows and a toolbar. The image windows display your start and end images with any control points or lines that you have defined. The toolbar contains tools for applying and manipulating the control settings and provides direct access to commonly used menu commands.

**Note:** *When you position your mouse over a tool in the toolbar, a hint message appears in the status bar describing the function of that tool.*

*A control window*



### 2.1.2 Creating a new morph document

To create a new morph document, choose the New command in the File menu. This opens the New dialog box which allows you to select your start and end images. To choose the start image, (the one to be morphed from), check the *Start Image* option at the top of the dialog box and select the image you want from the filename list box. To choose the end image, (the image to be morphed to), check the *End Image* option and select another file. You can conveniently toggle between the two options by holding down the Shift key (for the start image) or the Ctrl key (for the end image) as you click on a filename.

The New dialog box also allows you to choose whether or not to use the original files of your selected images or create a copy of them by checking the *Open Copy* checkbox. (When the morph document is created, the images will appear as “untitled” in their respective image windows.) It is a good idea to use copies if you are using the original images for other work and don't wish the files to be affected by any editing you may do in Morph Editor.

#### Notes:

- *Both images placed into a control window must be of the same dimensions. If they are different, you have the option to crop or resample them accordingly.*
- *The total number of pixels in an image must be divisible by 4. If it is not, Morph Editor automatically crops the image. (At most this will result in a loss of 3 pixels.)*
- *Morph Editor only works with Grayscale or RGB True Color images. If you use an Indexed or Hi-Color image, it will be converted to RGB True Color; Black & White images are converted to Grayscale.*

### *Placing images into a control window*



You do not have to select both a start and end image when you create a new morph document. If you wish, you can select one image and add another at a later date using the Load Image dialog box, opened by clicking on the load image button in the toolbar, or by clicking inside an empty window. If, at a later date you want to replace one or both of the images in a morph document, choose the Load Start/End Image command in the File menu; this opens the same Load Image dialog box.

If you have an installed TWAIN device, such as a frame grabber or scanner, you can input images directly into the control window using the Acquire command in the File 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, the image is saved to disk and automatically placed in the currently active start or end image window, replacing any existing image.

#### **Notes:**

- *Before you use the Acquire command, you have to select a TWAIN device in the Select Source dialog box, opened by choosing the Select Source command in the File menu.*
- *If you want to copy the active image from one image window to other, choose the Duplicate command in the Morph menu.*

### *Swapping the start and end images*

Whenever you perform a morph operation, the start image changes into the end image. There may be times, however, when you want the end image to change into the start image. This can be done easily by choosing the Swap command in the Morph menu. This switches the positions of the images so that the start image becomes the end image, and the end image becomes the start. (This command is disabled if you only have one image open.) Any control points and lines are also switched, thereby allowing you to immediately perform a morph operation without needing to redefine the control settings.

### **2.1.3 Saving a morph file**

When you want to save a morph file, Morph Editor provides two commands: Save and Save As. Use Save when you wish to update changes to the file you are currently working on and Save As when saving new files, or to save a file to a new directory and/or filename.

The Save As dialog box also allows you to include preview information with the morph file by checking the ***Include Preview Info*** checkbox. This uses both images in the control window as the preview sample. (Preview samples are only displayed if the program accessing them can read preview information, e.g. many Open dialog boxes have a preview sample allowing you to see the content of the selected file.)

**Notes:**

- *If you are saving a morph file for the first time, standard save dialog boxes appear for each of the images in the control window. Use these dialog boxes to overwrite the existing file or to save them to a new filename and/or destination.*
- *To save the active image to a new or existing file, choose the Save Active Image As command in the File menu.*

#### **2.1.4 Printing files**

To print your work, you can send the active image 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 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 you are 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.)

### **2.1.5 Closing files**

When you have finished working on a morph document, or wish to remove it from the workspace, you can close it. This can be done in one of the following ways:

- choosing the Close command in the File menu.
- double-clicking on the control window's Control menu box
- choosing the Close command in the control window's Control menu.

When you close a control window, both itself and the composite window (if open) disappear from the workspace. If you have not saved the morph document, or 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.

### **2.1.6 Exiting Morph Editor**

If you have finished working with Morph Editor, you can exit by closing the program window from the Control menu, or by selecting the Exit command in the File menu. When exiting Morph Editor, you will be asked if you want to save any new morph documents or any changes made to a previously saved morph file. Selecting No discards any changes; Yes saves them.

## 2.2

### Recovering from mistakes

Morph Editor provides two commands for recovering from mistakes you make: Undo and Restore. The Undo command in the Edit menu reverses the last applied command (where possible) and returns the morph document to its state prior to the application of the command. (Undo will only undo the most recent change.) Instead of Undo at the top of the Edit menu, you may see Redo. This appears after the you have “undone” something, effectively allowing you to undo the undo.

The Restore command in the File menu allows you to undo all the changes made to the current morph document since it was last saved. For example, if you have been experimenting with a variety of effect commands, you can restore the morph file; the images and settings are restored to their last saved version. (This essentially closes the file and reopens it.) Before using this command consider carefully, as this cannot be undone.

# 2.3

## Resizing images

Morph Editor provides two commands for controlling the size of your images: Crop and Resample. Resizing your images is important, not only for making your images more manageable, but also because both the start and end images in a control window must be of the same dimensions.

### 2.3.1 Resampling an image

Resampling works by enlarging or reducing the size of an image by increasing or decreasing the number of pixels that the image contains. This allows you to stretch or squash images to fit a specific size.

*To resample an image:*

1. Click on the image in the control window you want to resample to make it active.
2. Choose “Resample” from the Edit menu. The Resample dialog box appears containing information about the 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. (When Keep Aspect Ratio is checked, entering one value automatically adjusts the other value.)

5. Click on the *Resample* or *Manual Crop* options in the *Start/End Image* group box to resize the corresponding image accordingly. (These are disabled if there is only one image in the control window.)
6. Click OK. The active image is resampled. The second image (if there is one) is resampled accordingly or opens in the Crop dialog box.

**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 a control window has an existing start or end image, and you insert a smaller image, the image is automatically resampled up.*

### **2.3.2 Cropping an image**

Cropping is a way to trim the edges of an image and is therefore helpful in allowing you to control the size and position of the subject of your image. When you crop an image, the cropped portions cannot be retrieved again, unless you immediately undo the Crop command or restore the morph file.

*To crop an image:*

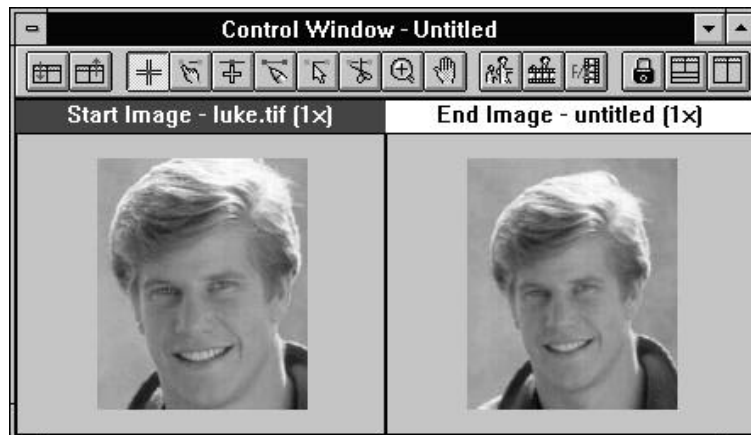
1. Click on the image in the control window you want to crop to make it active.
2. Choose “Crop” from the Edit menu. The Crop dialog box opens displaying a sample of the active image with a cropping border positioned in the center.
3. Drag and resize the border to include the areas of the image you want retained.

## MORPH EDITOR BASICS

4. Select either the *Auto Crop*, *Manual Crop* or *Resample* options at the bottom of the dialog box to resize the corresponding image accordingly. (These are disabled if there is only one image in the control window.) Auto Crop crops the second image according to the location of the cropping border in the sample image. Only use this option if the subject to be morphed in both images is in the same position. If you need to selectively crop the second image, choose Manual Crop. This crops the first image and then reopens the Crop dialog box, allowing you to reposition the cropping border over the subject in the second image. The Resample option resamples the second image to the dimensions of the cropped image.
5. Click OK. The dialog box closes and the active image is cropped. Depending on your selections, the other image (if there is one) is also cropped, resampled or opens in the Crop dialog box.

**Note:** *If a control window has an existing start or end image, and you insert a larger image, the Crop dialog box opens, allowing you to crop or resample the image.*

*The start image has been cropped and the end image resampled*



## 2.4 Using the clipboard

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

Morph Editor allows you to place two kinds of data onto the clipboard: images and settings. To place the active image onto the clipboard, choose the Copy Image command in the Edit menu. You can then paste this image back into a control window (e.g. as the end image) or into the Image Editor program for further editing and enhancement.

Choosing the Copy Settings command from the same menu places the current control settings onto the clipboard (this includes all control points and/or lines). This is useful when you want to save the current control points and lines and place them into a new control window or a control window in another Morph Editor program window.

**Note:** *To view the contents of the clipboard, choose the Clipboard Viewer command in the Switch menu. This opens Windows Clipboard Viewer, (control settings data cannot be displayed).*

***Pasting data from the clipboard***

After copying data onto the clipboard, you can paste it into the active image window of a morph document by choosing the Paste command in the Edit menu. When pasting image data, your new image replaces the active image and will be resampled, where necessary, to the size of any existing start or end image. When you paste control settings, they must be pasted into a morph document whose images are the same dimensions as those they were copied from, (the control window must also contain both a start and end image).

**Note:** *Morph Editor only allows you to work with Grayscale and RGB True Color images. If you paste in an Indexed or Hi-Color image, your new image will be converted to True Color; Black & White images are converted to Grayscale.*

# 2.5

## Viewing

When you display images in Morph Editor, the image pixels are “mapped” onto your screen pixels. Controlling the mapping of these pixels determines the way you see the images. This section takes a look at the ways you can control the view of images as well as how to display file and system information.

### 2.5.1 Changing the magnification of an image

When you are placing and moving control points, you may want to see the image 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 in the View menu or by using the zoom tool. If you choose the Zoom In command, you can zoom in up to 8× the actual view. To reduce the view, choose the Zoom Out command. This allows you to zoom out up to 1/8× the size of the actual view. (To return to the actual view of an image, choose the Actual View command in the View menu or, if using the zoom tool, click the right mouse button.)

#### *Locking the images in view and position*



Often when you are changing the view of an image, you want the corresponding image to change as well. In Morph Editor you can do this by clicking on the lock button in the toolbar. This joins the two images together, and any changes made to the zoom level or position of one is reflected in the other. (Click again on the lock button to unlock the images.)

### *Using the zoom tool*



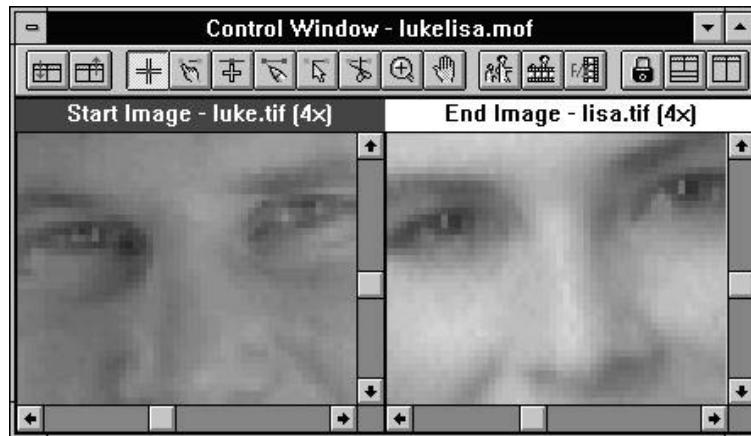
The zoom tool provides an alternative to the Zoom In and Zoom Out commands and allows you to accurately zoom in on particular areas of an image. You can use the zoom tool in a number of ways:

- clicking the left mouse button zooms in on the area under your mouse pointer.
- holding down the Shift key and clicking the left mouse button zooms out from the image.
- clicking the right mouse button returns the image to actual view.

**Notes:**

- *You can also press the "+" and "-" keys to zoom in and out on images respectively.*
- *To switch to the zoom tool temporarily, hold down the Z key. Releasing the key returns the pointer to the currently selected tool.*

*Zooming in on both images at 4x actual view*



### ***Repositioning an image within its window***

When you zoom in on an image, parts of the image may be hidden by the frame of the window. To reposition the image so that the hidden areas are displayed, use the scroll bars or the move tool. The move tool is a more convenient method and allows you to “slide” the image around the window by simply dragging it with your mouse. This reveals those portions of the image previously hidden.

**Note:** *You can switch to the move tool temporarily by holding down the M key. Releasing the key returns the pointer to the currently selected tool. This allows you to maintain your focus on the work at hand, without having to move your mouse to change tools.*

### ***Fitting an image within its window***

If you want to increase the magnification of an image, but keep the image displayed within the window frame, use one of the available zoom commands 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.)

## 2.5.2 Managing images



When you first create or open a morph file, the start and end images appear next to each other. If you are working with images that are wider than they are high, you can choose to stack them with the Tile Horizontally command in the View menu. To return to displaying them side by side, choose the Tile Vertically command. An alternative to choosing the tile commands is the tile button. Clicking on this button toggles the two images between tiling vertically or horizontally.

### *Placing images on top*



Most of the time you will be working with two images and prefer to see both images tiled side by side. There may be times, however, when you would prefer only one image to be displayed, e.g. when performing special effects or applying control points at a high zoom level. To view only one image, click on the layout button. This places the currently active image “on top” of the other. To switch the image appearing on top with the one behind (if there is one) click on the tile button.

### **2.5.3 Displaying information**

Morph Editor provides information about the active image and your system's status with two commands in the View menu: Morph Information and System Information. Choosing the Morph Information command opens the Morph Information dialog box. Here you can find information about the morph filename (where applicable), the filenames of the start and end images, the active image's width and height (in pixels), the total number of control points and lines and the quality level of the morph sequence.

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

# 2.6

## Customizing the way you work

The Preferences command in the File menu provides a submenu of five commands that can be used to customize the way you work. The following section discusses each of these commands and details how you can use them to improve the way Morph Editor works for you.

### 2.6.1 Morph Editor

Choosing the Morph Editor command, pressing the F6 key, or double-clicking on the status bar opens the Morph Editor dialog box. In this dialog box you can choose to change the colors of the control points and lines, the quality of the morph process and the number of filenames kept.

To change the color of a control setting, simply click on the appropriate color square. The standard Windows color dialog box opens displaying available colors you can choose from. You should change colors whenever you find it difficult to distinguish the control points against the background of the images you are working on. When you save a morph file, the control setting colors are remembered.

**Note:** *New control windows take their control point and line colors from the last opened file.*

The *Quality* group box is used to control the relationship between morphing speed and the quality of the resulting composite image or video sequence. Which option you select depends on your reasons for performing the morph operation and the degree of clarity you want. If you are preparing a final version of your work and want to produce the best possible results, then select the Best option. If you only want to check how your work is developing, then select the Fair option.

The *Number of Files 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 morph files. To open a file from the list, click on its filename.

### **2.6.2 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.

### 2.6.3 Display

The Display dialog box allows you to adjust how Morph Editor displays images. Which options are available depend on your current display mode. If you are working in a 256-color display mode, the *View Images With a Common Palette* option is enabled. Selecting this option displays images using the default system palette – this provides reasonable representation of all images and makes your work quicker because the same palette is shared by each image. If you want to produce the best colors for each image, leave this option unchecked, (this does, however, slow down processing time).

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, please refer to the introductory guide.

#### **2.6.4 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. Morph 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 enabling you to specify more than one temporary directory from the same drive.

#### **2.6.5 File Formats**

The File Formats command allows you to specify which image and graphics file formats you want Morph Editor to support. When you the Morph Editor program 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 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.*

## **3** *Morphing*

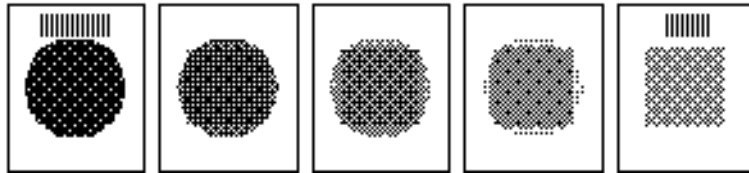
*If you have followed this guide from the beginning, you will be familiar with the basics of morphing and be able to navigate around the Morph Editor program window. This chapter explains how to perform a morph operation, and includes sections on placing control points and lines, common morphing techniques and an introduction to each of the special effects and filters available in Morph Editor.*

### 3.0.1 Before you begin

Morphing is all about change; distorting the features or subject of one image, the *start image*, into another, the *end image*. How this distortion takes place is controlled by the placement of *control points* and *control lines*. To better illustrate the use and behavior of these control points and lines, it is useful to take a look at some of the common effects that can be created in Morph Editor, beginning with performing a crossfade.

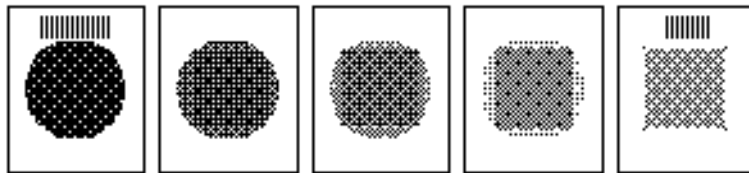
A crossfade occurs whenever you perform a morph operation without placing any control points or lines. As such, the start image will gradually fade out while the end image fades in. The frame halfway through such a sequence consists of 50% of the start image and 50% of the end image.

*Performing a crossfade of the start and end images*



The problem with crossfading, however, is the “ghosting” effect, or shadowing, that occurs when the images are fading in and out as well as the lack of distortion. By placing control points and control lines in strategic positions on and around the features of the images you want to morph, you can better distort how one image merges into the other.

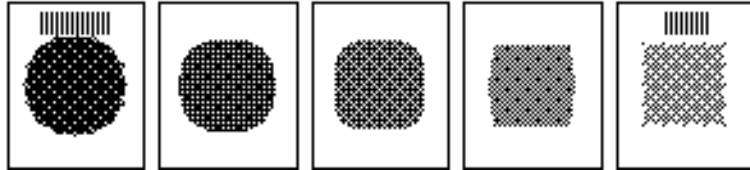
*Distorting the image by placing control points at each corner of the square*



## MORPHING

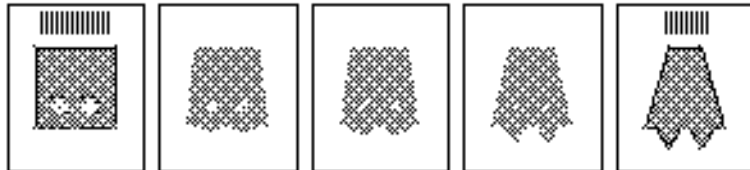
Without enough control points, the distortion stills contains some ghosting, as can be seen in the previous example. The areas anchored by the control points, however, maintain their positions and “pull” the start image in towards the end image. The more control points you place, the better this distortion.

*Distorting the image by placing control points on the circumference of the circle*



In the above example, the start image smoothly distorts into the end image. Most of the time, however, the subjects you want to morph will contain features which are not exactly symmetrical, such as faces, cars and other objects. When this happens you have to manipulate your control points and lines so that the start image can shrink or expand into areas of the end image.

*Shrinking and expanding features of one image into another*



# 3.1

## Controlling your morph

Once you have chosen your images to morph, you can begin placing control points and lines to isolate or pin-point the subjects in both the start and end images. Placing control points and lines is as easy as a mouse click – the key to performing realistic and smooth morph transformations, however, lies in the correct positioning of these points and lines.

### 3.1.1 Placing control points and lines



To place a control point or line, select the appropriate set point or set line tool from the toolbar and position your mouse over the area where you want to begin placing points. When you click your mouse a control point appears underneath the pointer and a linked “sister” point appears on the other image. Each time you click, a new control point is created. If you have the set line tool selected, and place a second point, a control line is created joining the two points together. (To connect points consecutively, hold down the Shift key as you click).

#### Notes:

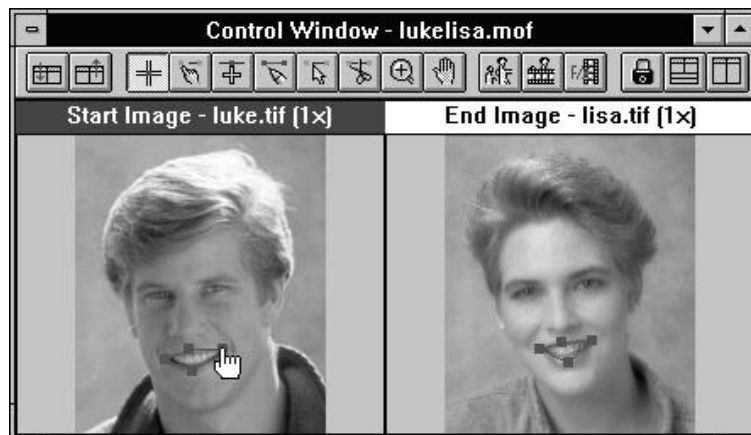
- *To add a control point to an existing control line, use the add point tool.*
- *To connect existing control points to a control line, use the connect tool.*
- *Do not place control lines so that they intersect or cross over each other.*
- *The maximum number of control points or lines you can place is 320.*

## MORPHING

If you do not place enough control points or lines, the resulting morph video sequence may appear “jumpy”, contain ghost frames, or the subject may disappear and then reappear towards the end of the morph sequence. To solve such problems, try placing more control points and lines on the trouble areas. If there is no easily identifiable area to target, simply “spray” the control points evenly over the area and then realign them on the start or end image accordingly. This will ensure that all aspects of the start image are pulled, stretched or compressed into the desired end image.

**Note:** *If you want to protect areas, or confine distortions within areas, place more control lines along the affected borders, such as the outline of a head, eye, or edge.*

*Placing a control point and line*



### 3.1.2 Moving control points



To move a control point once it has been placed, click on it with the adjustment tool and drag. An alternative to dragging a point is to first click on the point you want to move, to make it active, and then place your pointer on the area you want it to move to. Pressing the “.” (period) key immediately repositions the point to the location of your mouse pointer.

If you prefer to move control points as you place them, hold down the Ctrl key whenever you click your mouse on an existing point, (with the set point or set line tool selected). The pointer temporarily switches to the sister control point on the corresponding image. You can then move this point independently of the other. Releasing the Ctrl key returns the pointer to the original image.

#### Notes:

- *Whenever you move a control point, any connected control lines move accordingly.*
- *You can move control points as you place them by keeping your mouse button pressed down and dragging. This moves both the original point and its sister point.*
- *To switch to the adjustment tool temporarily, hold down the A key. Releasing the key returns the pointer to the currently selected tool.*

### 3.1.3 Deleting control points and lines

The Edit menu contains three commands which allow you to delete control points and lines: Clear, Clear Lines and Clear All. The Clear command deletes the currently active point (any connected control lines are also deleted). Use the Clear Lines command when you want to delete all control lines (this does not delete any connected control points). To delete all control points and lines, choose the Clear All command.

**Note:**

- *Pressing the Shift + Del keys deletes the currently active control line. (Which line is active is determined by order of placement.) If you want to delete specific control lines, select the disconnect tool in the toolbar and click on the line concerned.*
- *You can also delete control points and lines by simply clicking on them with the right mouse button, (you must have one of the control point or line manipulation tools selected first).*

## 3.2

### Previewing your work

As generating morph video sequences is very memory intensive and time consuming, it is best to have some idea of how your sequence will turn out before actually committing to the process. Morph Editor allows you to generate a preview composite image that can represent any particular frame of the video sequence. If you wish, you can then save this as an image file by clicking on the save image button in the toolbar or from choosing the Save Active Image As command in the File menu.



To preview a composite image, click on the composite image button in the toolbar. The composite window appears and a preview image is generated. How much distortion this composite image shows depends on the ratio defined in the *Factor* spin box. To change this ratio, enter in a new value and click on the composite image button in either the control window or the composite window's toolbar. The image is regenerated. (Selecting a ratio of 90%, for example, generates an image that has undergone a 90% change from the start image to the end image.)

#### Notes:

- *An alternative to the composite button is the Compose Image At command in the Morph menu. If you choose this command a submenu appears listing the percentages you can select from to create the composite image.*
- *To return to the control window, click on the return button in the composite window's toolbar. This makes the control window active.*

## 3.3 Generating a morph video



Once you have chosen your images to morph, placed and positioned the control points and lines, you can generate a morph video sequence. Depending on your images and the type of system you have, this process may take some time. (To abort, press the Esc key.)

*To generate a morph video sequence:*

1. Click on the control window to make it active.
2. Click on the morph video button in the toolbar or choose “Save Morph Video As” from the Morph menu. The Save Morph Video As dialog box opens.
3. In the *Directories* list box, select the drive and directory you want to save the video file to.
4. In the *File Name* entry box type the name of your file, (up to eight characters). You do not need to include an extension as all video files are saved in the standard AVI file format.
5. Enter a value for the duration of the video sequence and the number of frames to be included (per second) in the *Video Duration* and *Frame Rate* spin boxes respectively. The higher the frame rate the smoother the motion of the resulting sequence. This does, however, increase file size as well as processing time. (For general purposes try a frame rate of 15.)

**Note:** *To compress the video file, click on the Options button and select a compression scheme from the **Compressor** list box. As a guideline, try Microsoft Video 1 for Grayscale sequences and Intel Indeo for RGB True Color sequences.*

6. To play the video sequence after saving, check the *Play Result* checkbox. (If this is left unchecked, you have to open the file using the Play Video command in the File menu.)

7. Check the ***Append*** checkbox to add the video sequence to the end of an existing file. This is useful if you want to join several video files together into one video sequence. Leave this checkbox unchecked if you want to save the video sequence to its own file.

**Notes:**

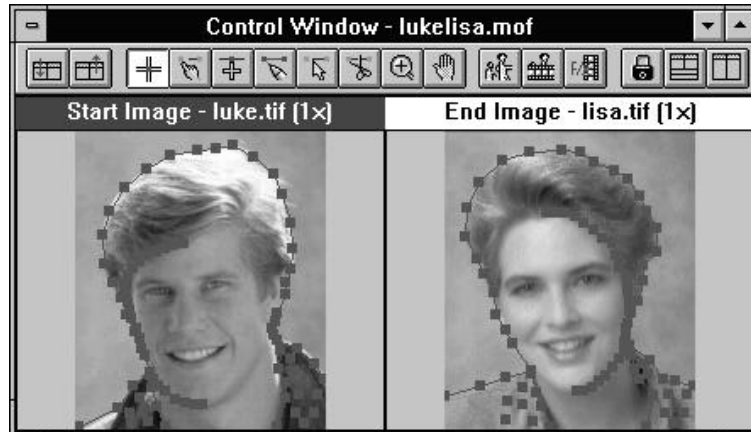
- *You cannot append a video sequence to a Grayscale or 256-Color video file, or to a file whose frames are of different dimensions.*
  - *Some video display software (and certain display modes) cannot display appended video files.*
8. Select the data type that you want to save the video sequence in from the ***Format*** combo box. This can be either RGB True Color or Grayscale.
  9. Enter a value in the ***Reverse Sequence*** checkbox if you want your morph video sequence to repeat itself in reverse. For example, a value of 1 saves the sequence as it moves from the start to end image and then from the end to start image. This is useful if you are saving a small number of frames and wish to create a “ping-pong” effect. (Optional)
  10. Click OK. The dialog box closes, the composite window appears and the morphing process begins.

**Notes:**

- *If you edit the images in the control window and wish to generate the morph sequence again, choose the Save Morph Video command in the Morph menu. This overwrites the existing video file and uses the original video settings to save the new sequence.*



## MORPHING

Generating a "turning page" effect by mirroring the control points on the start image with those on the end image



### 3.3.1 Playing back a video sequence

Morph Editor does not directly play back video files, instead it calls up Microsoft Video for Windows Media Player. This provides a video window consisting of two controls and a slider bar. The following provides a brief explanation of each of those controls and how you can use them to control the playing of your video files.

-  **Play button** – click once to play the video sequence, again to pause.
-  **File button** – provides commands to allow you to change both the frame dimensions and speed of the video sequence. Other commands included are Open and Close, Copy, (for copying the currently displayed frame), Configure and Command.

### 3.3.2 Saving the frames in a morph video sequence

An added feature of Morph Editor is that it allows you to save the frames of a video sequence as individual image files. This is particularly useful if you are preparing a publication or presentation and require still images rather than video sequences. Once saved, you can then choose exactly which frame (image) in the sequence you want to work with.

*To save the frames of a morph video sequence:*

1. Click on the title bar of the control window to make it active.
2. Choose “Save Morph Frames As” from the Morph menu, the Save Morph Frames As dialog box opens.
3. In the *Directories* list box, select the drive and directory you want to save the video sequence file to.
4. In the *File Name Prefix* entry box, type in a name for the file (maximum 5 characters). Each new file is saved with this prefix, followed by its creation number, e.g. morph001, morph002, etc.
5. From the *List Files of Type* combo box, select the image file format to save your files to.
6. Enter a value for the number of frames to be saved in the *Number of Frames* entry box. (The number you put here is the number of new files that will be created.)
7. Click OK. The dialog box closes, the composite window appears and the morphing process begins.

## 3.4 Applying special effects & filters

Morph Editor comes equipped with a number of advanced special effects and filters that can add a new dimension to any of your morph creations. These effects can be used to create a new image, or animated to produce an effect video sequence.

All the various effect and filter commands in Morph Editor can be found in the Effect menu and are described fully in the following section. Whenever you choose one of these commands, a dialog box opens providing before and after sample images. These allow you to immediately see the result of any adjustments you make as well as control the degree of the effect. You can therefore happily experiment with a variety of settings without fear of damaging the original image or spending a lot of time waiting for the effects to be applied.

### Notes:

- *Choosing the Browse command in the Effect menu allows you to step forwards or backwards through each of the effect dialog boxes.*
- *To redo an effect, choose the Redo command in the Effect menu. This redoes the last applied effect command.*

### **3.4.1 Enhancing the colors of an image**

Morph Editor provides two commands which allow you to enhance the color values of an image: Brightness & Contrast and Hue & Saturation. Use the Brightness & Contrast command when you want to adjust the lightness and darkness as well as the difference between areas of light and dark colors in an image. (For RGB True Color images you can also edit the individual color channels, red, green or blue.) Use the Hue & Saturation command if you want to change the color (hue) or purity (saturation) of colors.

### **3.4.2 Applying filters**

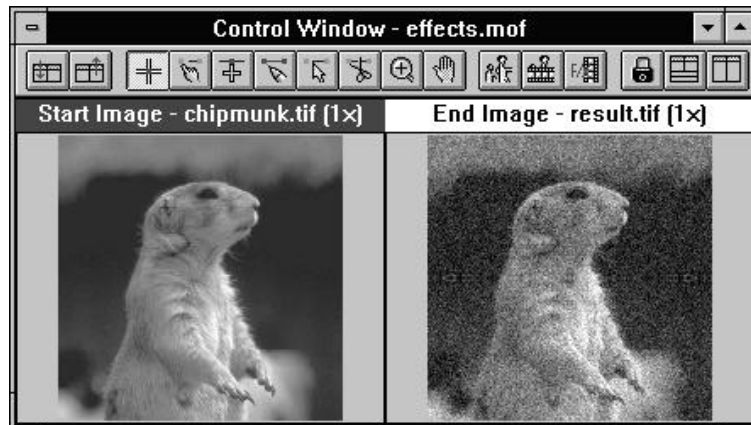
Choosing the Filters command reveals a submenu of specially prepared filters that can be used to distort or alter an image. Filters are essentially effects that work by adjusting the pixels in an image, much like sunglasses reduce the brightness of things you see. The following pages introduce the filters available in Morph Editor:

## MORPHING

### *Add Noise*

This filter works by randomly generating pixels of varying gray/color values. The result is an image that looks as if it has come from a television encountering static problems. In the dialog box that appears when you choose the Add Noise command, the *Distribution* group box allows you to distribute this static evenly over the entire image, or in a varied pattern. To increase the static, drag the *Level* slider to the right or enter in a higher value in the adjacent spin box.

*Image before and  
after adding noise*



### ***Blur***

The Blur command allows you to reduce the contrast of pixel values in an image to create a softer image. By moving the ***Level*** slider to the right in the Blur dialog box, you can increase the amount of blur, eventually obscuring the entire image.

### ***Emphasize Edges***

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

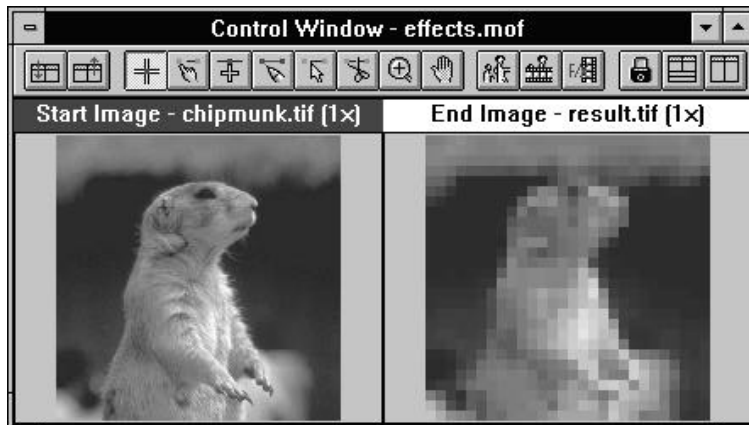
## MORPHING

### *Mosaic*

This filter breaks an image into blocks containing pixels of the same color values. In the Mosaic dialog box you can define these blocks as square, or change the X and Y axes independently.

Mosaic filters are commonly used to obscure the faces of people appearing on television, or in print, who wish to remain anonymous.

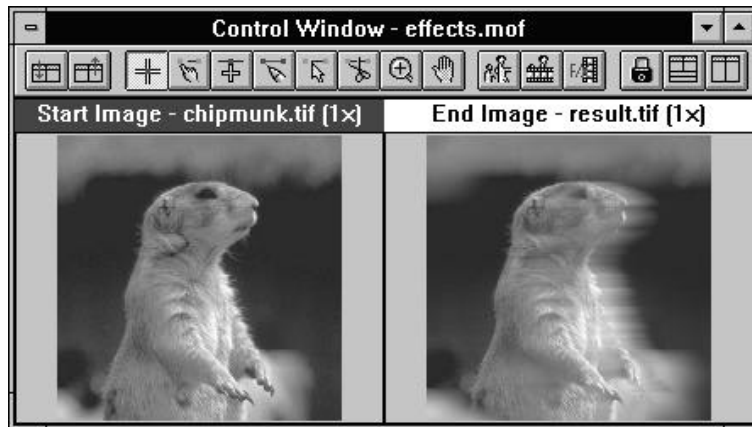
*Image before and  
after applying the  
mosaic filter*



### ***Motion Blur***

The Motion Blur filter creates the appearance that an image is moving. This effect is commonly produced in photographs showing people and objects moving at high speed. In the Motion Blur dialog box you can change the length of the movement as well as the angle of direction. A ***Light Source*** group box provides additional options that allow you to specify how light is produced on the image.

*Image before and after applying the motion blur filter*



## MORPHING

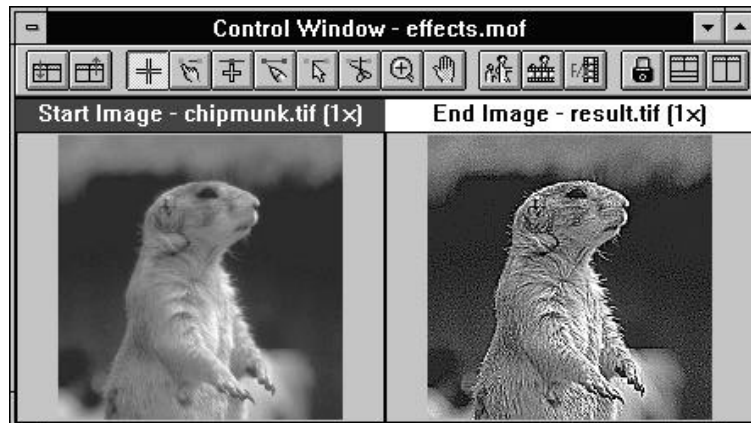
### *Posterize*

Posterize allows you to reduce the number of color levels in an image. Decreasing the value reduces the number of colors that can be displayed. For example, if your image has 64 shades of gray, a level value of 4 will only display 4 of the possible 64. This filter is useful if you want to create a surreal effect or need to limit the number of displayable colors due to hardware constraints. (For RGB True Color images you can also edit the individual color channels, Red, Green or Blue.)

### *Sharpen*

The Sharpen command increases the contrast between light and dark pixels in an image. Use this command when your images appear unclear or the edges are not well defined.

*Image before and after sharpening*



### 3.4.3 Applying special effects

Special effects differ from filters in that they actually change the content of images. Whenever you apply a special effect, it is performed on the currently active image.

#### *Emboss*

The Emboss effect displays the outline of an image against a solid color background. In the Emboss dialog box you can choose this color from the sample image or from the standard Windows Color dialog box. To select a color from the sample image, place your mouse over the color you want to use and click. The color of the preview sample image changes accordingly. To select a color from the Windows Color dialog box, click on the *Coating Color* color square.

The Emboss dialog box also allows you to change the light direction of an image. This makes the outline appear to “raise” above the surface, or to be “stamped” into it. To increase this effect, move the *Depth* slider to the right.

#### *Fish Eye*

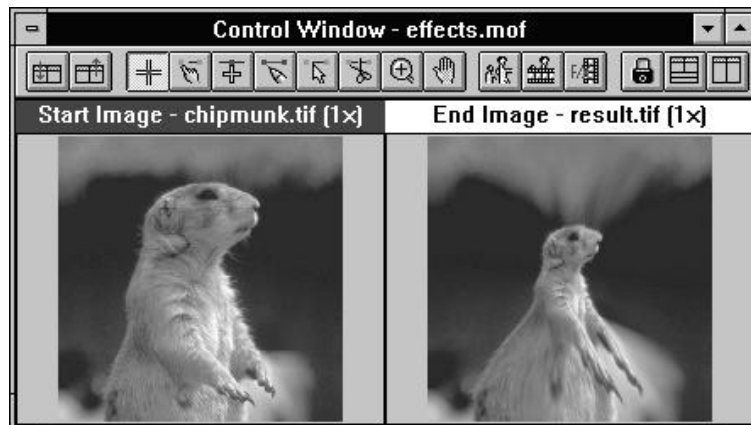
The Fish Eye effect creates a convex shape in the center of an image. This results in a distorted 3D effect. You can also control the light direction, making it appear from the center of the image or from the boundary.

## MORPHING

### *Pinch*

The Pinch effect works by squeezing the sides and top of an image in towards the center. The greater the factor of the pinch, the tighter the squeeze.

*Image before and after applying the pinch effect*



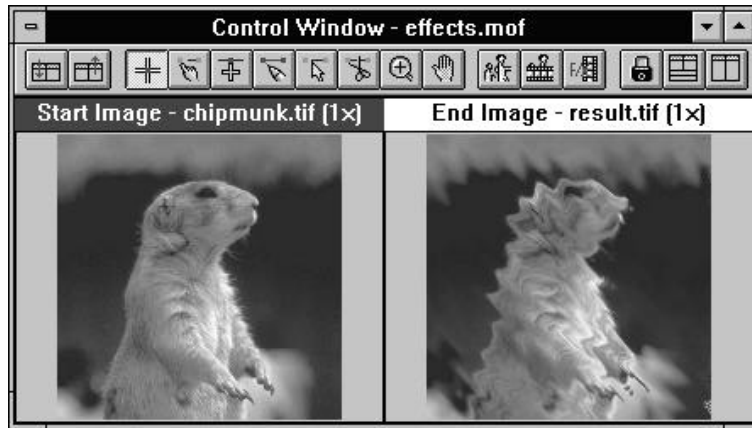
### *Punch*

Punch produces an impact feel to the image by pushing the image from the center out. The greater the factor of the punch, the larger the impact. This effect works well with inanimate objects such as cars and walls.

### *Ripple*

The Ripple effect creates a ripple over an image, much like that produced when the wind blows across a pond. You can also choose to make the ripple start from the center, like the ripple created by a pebble dropping into a pond.

*Image before and after applying the ripple effect*



### *Watercolor*

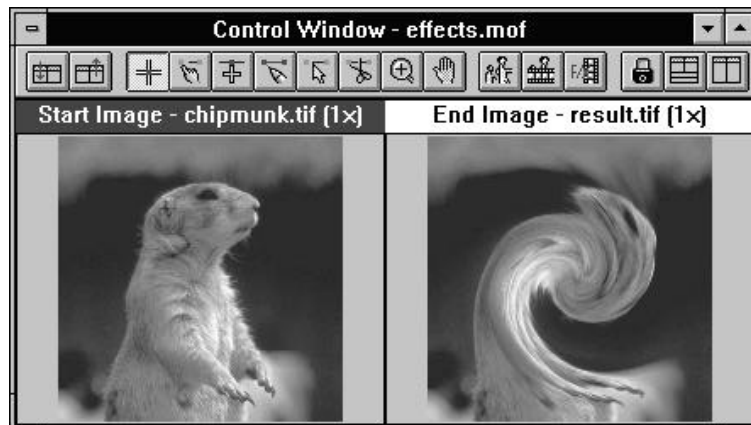
The Watercolor effect is only available for RGB True Color images. Applying this effect gives the impression that the image has been created using watercolor paint. By adjusting the **Stroke Size** in the Watercolor dialog box you can specify the size and length of each paint stroke. Moving the **Moisture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

## MORPHING

### *Whirlpool*

The Whirlpool effect “swirls” the image around its center. You can choose to do this clockwise or counterclockwise, up to a maximum of 720 degrees.

*Image before and after applying the whirlpool effect*



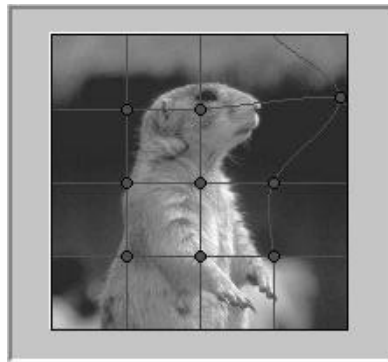
### *Wind*

The Wind effect creates “wisps” of wind over the image. In the Wind dialog box you can control the direction of this wind as well as how hard it is “blowing”.

### 3.4.4 Warping an image

Warping is very similar to morphing, and in many ways is the forerunner to morphing itself. Warping works by using a grid-based pattern to move control points around an image. Once moved, the image distorts to the shape specified by the new position of the points. Warping is ideal when you are working with individual images and wish to see the effect immediately. It is also much less demanding on your system resources than morphing, but you are restricted by how far you can move the control points within the grid.

*An image and the warping grid*



## MORPHING

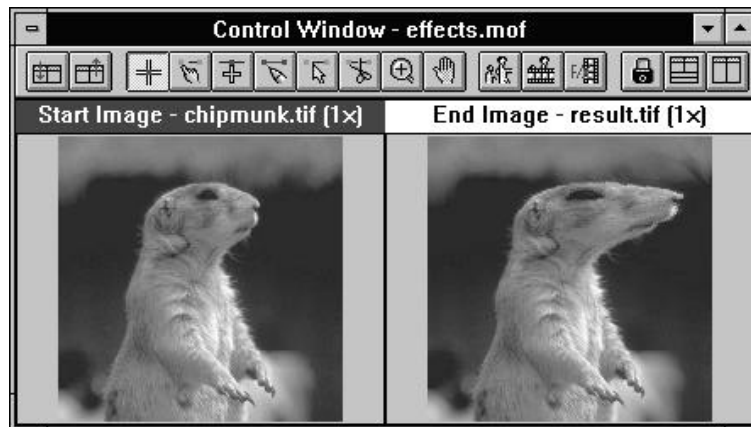
*To warp an image:*

1. Click on the image you want to warp to make it active.
2. Choose “Warp” from the Effect menu. The Warp dialog box opens displaying a sample of the active image.
3. Click on a control point (or at a grid intersection if the control points are hidden) and drag. (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 on 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 adequate results. If you want the best possible results, check the **Better** option. This does however require more time to perform the effect.*

4. Click OK. The dialog box closes and the image is warped accordingly.

*Image before and after applying the warp effect*



### **3.4.5 Defining your own custom effect**

Many of the effects provided by Morph Editor work by regenerating a pixel value based on its original value and the value of the surrounding pixels. The Custom Mapper command allows you to create your own effects in a similar way using a unique mapping graph.

When you view the graph, a default mapping curve (line) bisects the graph on the diagonal (this may change depending on the previously selected mapping options), indicating that for each “input” value the “output” value is the same (i.e.  $Y=X$ ). By increasing the gradient along the Y axis, you can compress, or squeeze, parts of an image. The steeper the gradient the greater the compression. By lowering the gradient along the X axis, you can expand, or stretch, parts of the image. The lower the gradient the greater the expansion.

## MORPHING

In the Custom Mapper dialog box you can adjust this curve directly by dragging your mouse over the graph or by selecting a predefined option using the tools button. These options make it easier to control and enhance the mapping curve. Which option you select depends on the type of effect you want to produce and the shape of your image. For best results experiment by using different options and previewing your changes. (To undo any changes to the mapping curve, click on the Reset button. This returns the mapping curve to the default  $Y=X$  curve/line.)

### Notes:

- *Each time you select a mapping option, it is applied to the current mapping curve.*
- *To save a custom effect, click on the Save button in the Custom Mapper dialog box. The Save Custom Mapper dialog box opens allowing you to save the effect to a custom mapper file (CMF). To bring the same file back into the Custom Mapping dialog box click on the Load button.*

## 3.5 Generating an effect video sequence



One of the more powerful features of Morph Editor is its ability to allow you to generate video sequences using a single image and one of the special effects or filters. By specifying the duration of the sequence, Morph Editor automatically distorts the image so that it moves from its original state and ends up at the state defined by the chosen effect.

The procedure to generate an effect video sequence is similar to generating a morph video sequence, (see p.43). The only exception is that the Save Effect Video As dialog box, (opened by clicking on the effect video button or by choosing the Save Effect Video As command in the Effect menu), has an additional *Effect* combo box which allows you to specify the type of effect you wish to use as well as options to control the starting and ending level of the effect.

## MORPHING

When in the Save Effect Video As dialog box, you can preview the effect, or change its current settings, by clicking on the Test button. (The dialog box for that effect opens.) If you want the effect to appear at a differing intensity over the sequence, enter in an appropriate value in the *Starting Level* and *Ending Level* entry boxes. (The values you enter here behave differently according to the effect chosen.)

**Note:** *If you edit or replace the image used in an effect video sequence and wish to generate the sequence again, choose the Save Effect Video command in the Morph menu. This overwrites the existing video file and uses the original effect settings to save the new sequence.*

*Animating a warping effect*



### 3.5.1 Saving the frames in an effect video sequence

To save the frames of an effect video sequence, choose the Save Effect Frames As command in the Effect menu. The Save Effect Frames As dialog box opens. This dialog box is similar to the Save Video Frames As dialog box, (see p.46), and allows you to save the frames of an effect video sequence as individual image files.

When in the Save Effect Frames As dialog box, you can preview the effect, or change its current settings, by clicking on the Test button. (The dialog box for that effect opens.) If you want the effect to appear at a differing intensity over the sequence, enter in an appropriate value in the *Starting Level* and *Ending Level* entry boxes. (The values you enter here behave differently according to the effect chosen.)

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## IMAGE EDITOR USER GUIDE

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