Black Belt Systems
WinImages:F/x
Demo Version Documentation

Document Revision 1.0 - January 13th, 1994 - Corresponds to v1.04 of the software
----

Welcome to **WinImages:F/x**. Our first product in the **WinImages** series, **WinImages:morph**, brought the magic of morphing to the desktop personal computer. With **F/x**, we bring high-end professional special effects, easy to use multiple frame animation, and powerful single image processing capabilities to your desktop.

WinImages:F/x is software designed to complement and enhance graphics arts, marketing, desktop video and multimedia projects by virtue of adding enticing visual effects to images and sequences of images (animations) in standard formats. All effects are of extremely high quality and may be performed on image frames of any resolution, making this software appropriate for professional level cinematic projects as well as video- or monitor-resolution desktop endeavors.

Limitations, Conditions and Notices
Limitations: The demonstration version does not allow you to save your processed output images or program settings files, alter the size of the filmstrip or view windows, and contains no online help documentation. All of these capabilities are, of course, available in the actual retail version of the software.

Conditions: This is a demonstration version of the program, and may it may be redistributed freely as long as the contents of the .ZIP archive are not altered in any manner, and no charge is made other than duplication or online (downloading) costs for such redistribution. Such impermissable alterations include, but are not limited to, any changes to the executable program file, modification of the included images, adding or deleting any file or files from the archive, or changing either of the readme.txt file or the readme.wri files. This software is *not* Shareware or Public Domain software and may not be marked as such in file descriptions or catalog entries.

Notices: **WinImages:F/x** and the **WinImages:F/x Demo** are Copyright 1994 Black Belt Systems, ALL RIGHTS RESERVED. In accordance with the Computer Software Rental Act of 1990: *This software may not be Rented, Lent, or Leased.*

For More Information:
You can receive further information on purchasing **WinImages:F/x** by calling our sales line at...
(800) 852-6442
 ...if you are located anywhere in the USA or Canada, or by calling our international sales line at...
(406) 367-5513
Any operational or technical questions about the software should be directed to the technical support division which may be reached at...
(406) 367-5509
...between 9 a.m. and 5 p.m. MST (this is minus seven hours from GMT), excluding lunch hour (between 12 o-clock noon and 1 p.m.).

Installing The Demo

Now that the .ZIP file has been extracted, you may choose to add the demonstration software to a program group, which will provide you with an icon you can access from within WIndows 3.1, or you will be able to run it using the Program manager's **Run** menu operation. You may place the

EXE file anywhere on your hard drive you prefer. You'll need about a megabyte of disk space to accomodate the EXE file. When you decompressed the ZIP file, an image file was also extracted. This image may be loaded into the software in order to allow you to experiment with the program's operation.

System Requirements
To operate, the software requires Windows 3.1, a minimum of four megabytes of ram (and preferably eight or more), and should operate well on a 386 or higher processor. A math coprocessor is not required, however if one is present, it will considerably speed up many operations. As you would expect, the faster the clock speed of your processor, the faster the software will process images.

Using WinImages:F/x

This section contains a brief tutorial on using **WinImages:F/x**. It will cover a few of the operations, and demonstrate how easy **F/x** is to use.

Concept:
We have designed the software to be as consistant as possible. This is so that once you learn how to do one type of operation, all other similar operations are them easily accomplished. The following section (Step-by-Step instructions) details how to perform a rather mundane effect (contrast) across a "sequence" of images. it's not very exciting, but it clearly demonstrates all of the principles of sequence processing within **F/x**. Once you have performed the steps described here, you will find it a simple matter to perform most other operations within the software. Experiment with the various effects, and try out multiple effects on the same image as well.

Step-by-Step Instructions:
1 - If you have not already done so, run the **WinImages:F/x** demo by clicking on its icon (if you have added the program to a program group) or use the Program Manager's **Run** command with the FX.EXE file selected. Once the program is running, you may wish to open this documentation and resize both the program and readme.wri file to fit on the same screen. This way you can perform the operations and view the tutorial at the same time. In some cases (lower resolution displays) you may need to use the Switch To (Ctrl+Esc) control or Alt+Tab to flip between **WinImages:F/x** and the readme.wri document.

2 - The next step is to customize **F/x** to your system. Remember, these are things that will generally only have to be done once in the retail version of the software; it can save these configuration items. Click on the **Display** menu option in the Pull Down Menu bar at the top of the program window. This menu contains options for altering the display mode of the program to best fit your system. This means that regardless of your display type, WinImages:**F/x** can be customized to utilize your hardware to its fullest. *It is important to note that our software contains extremely sophisticated display routines to ensure that your images are displayed as accurately as possible while you work with them. These display capabilities <u>far</u> exceed the capabilities of the vast majority of software previously available for Windows 3.1.* Select the **Info on Display...** option. This will display the current settings of **F/x**, and will also tell you the display mode that the program *suggests* for your system. Once you have reviewed the information in this panel, click **OK** in the dialog. **WinImages:F/x** will automatically start in the suggested display mode unless you have changed it (which is likely to reduce the displayed quality of the images). If you do need to alter the display mode, perhaps for speed reasons, simply click on the desired mode in the Display menu. You may also wish to alter the background color of the program window. This is changed by selecting the Display menu, and then altering the **Dark Background** control. The background will be black when this control is selected, and gray when it is not selected.

3 - Now, we'll set the length of the animation and the filmstrip. The animation/filmstrip length is set using the **Sequence Controls** option in the **Settings** menu. The Sequence Controls dialog

allows you to set the length of the animation/filmstrip as well as the output file type and path. Set the **Total Frames** control to 15 by entering the number in the provided text entry field. This sets the length of the animation (and the filmstrip) to 15 frames. For this tutorial we will want to turn the Save Result control *off* (You can not save output files using this demo). When this control is *on* all of the frames will be saved as the file format specified **Output Format** drop down list. This selection is completely independent of the file type specified in the **Output File Type>** option in the **File** menu. This allows you to save the resultant frames as any of the available file formats including **FLI/FLC** and **AVI** animations. After setting the animation/filmstrip length and turning the Save Results control *off*, press **OK**. You will also want to make sure that the filmstrip is currently visible. The filmstrip is turned on by using the **Show Filmstrip** control in the **Filmstrip** pull down menu. Doing this will turn the filmstrip *on*. You must have the filmstrip *on* if you wish to view the animation after it has been created.

4 - You are now ready to load the sample image and create an animation. The file is loaded using the **Load Image...** option in the **File** menu. Select the Load Image.. option and specify an image file (a sample image was included in the ZIP archive; you may use this image). The file is loaded by simply double clicking on the file name. **WinImages:F/x** can load many file types including BMP, PCX, TGA, TIFF, and frames from FLI/FLC animation files. In the release version, **F/x** can save in these file types as well; and generate animated sequences in FLC or AVI (Microsoft *Video for Windows*) formats. A proprietary high compression <u>lossless</u> 24-bit image format is included which can save you megabytes of disk space over more conventional formats such as Targa or TIFF. *Note that all save capability is missing from this demo.*

5 - Now that the file is loaded we will create the animation. Select the **Standard** operations group by clicking on it. The entire Standard operations group will move to the far left of the icon bar. Now, select the **Contrast** function. Its icon is the third from the left, and looks similar to the contrast adjustment control on your television. You will also notice that the name of the function appears to the right of the icon bar. The Contrast operation can also be accessed by selecting the **Operations** pull down menu. This menu will provide you with a list of all of the operation groups in the program. The Contrast function is found in the Standard Adjustments group, and is selected by clicking on it.

6 - The Contrast operation allows you to adjust the light and dark regions of an image. We are going to create an animation that goes from a contrast adjustment of -100 to 100 of the original pixel values in the region. To do this simply select the **Trend** button. The trend button allows you to set that variable over a set of frames. Each frame of the animation can be thought of as a slice of time. The trends allow you to alter some, all, or none of the variables for a particular time slice. You will notice that the trend graphs have equidistantly spaced vertical lines. Each of these lines represents a frame in the animation. You can therefore specify the contrast adjustment for each frame. Click on the increasing slope icon to set the contrast adjustment (The increasing slope icon has a diagonal line moving from the bottom left to the top right of the icon). The Trend graph is closed by double clicking the System Menu Button in the top left hand corner of the graph.

7 - Now, select the **Generate** pull down menu, and click on **Apply to Sequence**. This dialog allows you to specify the effects that are to occur and the area selection mode to be used. In this case Contrast should already be in the **Selected Operations** list. If it is not there, it can be added by simply clicking on Contrast in the **Choose From Operations List**, and then pressing the **ADD** button. Next, click on the **Use Area Selection to Follow** control. This will perform the specified operations in the next area that is selected. Make these changes to the dialog and select **OK**. *In these dialogs you may have noticed that you can apply more than one operation to an area; you can also apply more than one operation to <u>multiple</u> areas using saved area selections!*

8 - **WinImages F/x** will now wait for you to make an area selection. This is done by choosing an area selection tool from the Toolbox. In this case, for simplicity's sake select the Entire Image tool. It is the first icon in the fifth row of icons in the Toolbox. The Entire image area selection

method is activated when you click in an image. Clicking anywhere in the image you have loaded will begin the process of generating the animation.

9 - The generation time of an animation can vary from system to system. This time is also dependent on the type of operation or operations selected and the number of frames in the animation. The tutorial animation takes about 2 minutes on a 486 - 25Mhz with 16 Megs of RAM. The animation can be played once it has finished generating. The animation is played by pressing the **Play** button on the filmstrip. The **Speed** control allows you to adjust the rate of playback for the animation. The animation can be stopped at any time by pressing the **Stop** button.

Summary:
These basic steps can be followed to create an animation using any of the operations and area selection tools. You also have the option of applying the operations to only a single image. This is done by simply setting the controls for an operation, selecting an area selection method, and then applying the area selection to the desired image. You could use the steps above to create almost any animation in WinImages:F/x. You are also not limited to creating one effect at a time in a sequence. You can specify multiple effects, settings, area selects, and target and source files for an animation sequence.

As a second example, try creating a rotating asterization on the flower. The process is almost identical to the creation of the contrast animation. Simply set one or more of the trend graphs (rotation is suggested), and then generate the sequence using the same methods described above. You may want to adjust the color of the asterism, and increase both the saturation and the width. You may also want to try using one of the other area selection modes such as ellipse. All of the operations in **WinImages:F/x** work along these basic principles, and almost every portion of an operation has an adjustable trend. This gives you complete power over the effect during the animation sequence. Once you've learned how to apply a simple effect such as contrast, you should be able to work with most of the effects just as easily.

WinImages:F/x provides a wide range of area selection tools. This includes standard tools such as an ellipse, rectangle, freehand area, and flood fill; there are also other tools such as IShapes, which are polygonal areas that can range from the outline of continents to the skyline of London to custom outlines you create yourself, poly-arc and spline based curves, and complete 24 bit color keying. You can even apply an effect in your favorite TrueType font, which in trun can be rotated, skewed, sized and otherwise generally adjusted to suit your preferences. **F/x** also contains a full complement of area selection modifiers and an area selection editor. You can use all of the standard boolean operators (AND, OR, and XOR), an exclude mode, you can force the aspect ratio of the area select to be square or to hold the aspect of the image, and you can load and save IShape files that you have created. You can also use the undo and edit functions to alter an area select that needs a slight, or large, adjustment.

WinImages:F/x has 39 classes of operations. Each operation within a class can be altered to create a multitude of various effects. For example, Asterize has a total of eleven controls, and each of these controls can be altered individually or set as a trend of information for a sequence. The possibilities for this function alone are almost limitless. **F/x** also contains full transparency and alpha channel support for all operations in the software. The operations are broken up into groups that contain effect of a similar nature. These groups include Lighting, Motion, Geometric, Pattern, Texture, Mathematical, Collage, and Standard Adjustments. The following is a listing of all of the operations in the program and a brief description of the effect or operation.

Asterize: The Asterize operation will place a "flare" element on your image. This can be used to reproduce glints and highlights caused by light hitting metallic or shiny surfaces, such as camera flares. You have control over the shape and number of arms, color, rotation, and other aspects of the asterism.

Annular: The Annular operation creates concentric annular rings in the selected area. This operation can be used to create effects similar to halos, light rings, and even St Elmo's fire. You have control over six various settings, and there are also six preset annular effects to choose from.

Refract: Refract can be used to create optical effects ranging from rainbows to sunsets. The Refract operation allows you to alter the color of the selected area both radially and circumferentially.

Shine: This operation can be used to produce hot glare effects on your image. You can control the width and height of the glare, as well as the amount of the effect to be applied.

Motion Blur: This tool allows you to give an object the appearance of motion in any direction. This could be used to make a bouncing ball or speeding car look more realistic.

Spiral Blur: Spiral Blur is used to produce the appearance of motion in a circular manner. This is useful for rotating wheels and other rotating objects. You can control the rotation angle and degree of the effect.

Explode/Implode Blur: This operation will give the appearance of the motion of an explosion or implosion.

Dome: The Dome operation is similar to the effect produced by a convex lens. This allows you to create effects ranging from a slight change in perspective to a complete bubbling of the image like a soap film.

Caricature: This operation will produce an effect that is similar to viewing the image through a concave lens. You have more than likely seen this effect applied to politicians by cartoonists.

Radial Wave: The Radial Wave effect can be used to create waves, ripples, and wakes on your image. The waves can be of any size, and can be specified from any direction, including waves that begin off of the edge of the image.

Perspective: This function can be used to place an image onto another image using a 3-d orientation. This can also be used to create animation sequences that contain animations inside animations which in trun are rotating in 3-d perspective.

Rotate: The Rotate tool can be used to rotate any portion of an image to any 2-D angle. The selected area can be rotated in place or into its own image view.

3-D Net: This tool can be used to place a pseudo three dimensional net over your image. You can alter the net color, size, and other attributes.

Random Tile: The Random Tile operation will break your image into randomly sized tiles, and then will scatter the tiles to new locations in the image. You can specify the randomness and size of the tiles, as well as the maximum amount of movement for a tile.

Pixelize: Creates the classic blocky effect, but the pixels can be any size and can have colored borders.

Point Cellular: Similar to the Pixelize function, but you can control the transparency and color of the cells. This effect is similar to looking at your image through a frosted glass brick wall.

Lined: Lined can be used to create the AT&T logo and other similar effects on your image.

Relief: The Relief operation can be used to give your image the appearance of a stone relief

carving or a brass rubbing. A great way to set your face in stone!

Dither: The Dither operation can be used to randomly dither an area in color or luma tones. It can be used to create effects varying from ice crystals to craters on a moon.

Elevations: This will change your image into a geographic elevations map based on the brightness values in the image.

Derivative: This function will take the color derivative of the selected image, and then place it over the original image.

Variance: The Variance function can produce interesting color effects, and outlines around objects in an image.

Add: The Add operation is used to combine two images together in a selected region based on their color and brightness values.

Subtract: This will subtract one image from another in a region based on the images' color and brightness values.

Clip: Clip can be used to cut out a section of an image to be used with another operation or even composed into another image.

Merge: Merge is used to compose one image into another. The images can be of different sizes, and the merge region can be any area selection mode. This is the basis for creating image collages of any complexity.

Place: This tool will place a selected image into another image full size. This means that the source image will be place pixel for pixel into the target image.

Enlarge and Reduce: These tools can be used to enlarge and reduce an image to any resolution using sophisticated antialiasing meothds which assure the highest quality possible during conversions.

Clip Alpha: This tool can be used to clip a portion of an alpha channel for modification.

Color Fill: A standard color filling operation. You can set the RGB components to match the desired color, or use the palette to select a fill color.

Colorize: The Colorize tool can be used to alter the existing color of an image. This tool is useful for colorizing old photographs, or removing/adding tints to images.

Brightness: Brightness is used to alter the individual pixel brightness for each pixel in the selected region.

Contrast: This tool allows you to adjust the difference between light and dark regions in the image. A full range of contrast variation can be viewed by completing the demo tutorial above.

Gamma: Gamma is similar to Contrast, but is adjusted to be more similar to the way your eye reacts to light.

Balance: The Balance operation can be used to color balance an image based on a selected color. This tool is useful for "cleaning up" scanned images, or for altering the color of the image based on a color sample. This operation is used in conjunction with the **Color Sample** tool.

Histogram: This tool is used to Histogram equalize an image. It can also be used to apply new

color maps to an image. Applying new color maps can create solarizations and other color related effects in your image.

Color Sample: The Color Sample tool can be used to sample a specific color for color fills, color keying, and the **Balance** operation.

Make Alpha: This control allows you to create an alpha channel for an image based on your specifications or a source image's luminance.

Summary:
As you can see, **WinImages:F/x** has a multitude of special effect and image processing tools. All of the operations can be applied to a single image, or to multiple sequences of images. You'll be able to create high end special effects without the big budget usually associated with this type of software; so, whether you're creating special effects for an important presentation, or just having fun at home, **WinImages:F/x** can be a powerful addition to your library of software.

Contact Information

Black Belt Systems
398 Johnson Road
Glasgow, MT
ZIP: 59230

US & Canadian Sales: **(800) 852-6442**
International Sales: **(406) 367-5513**
Technical Questions: **(406) 367-5509**
14.4 v32 & HST Multiline BBS: **(406) 367-2227**
Incoming FAX: **(406) 367-2329**

Dealer and Distributor Inquiries invited: please call (800) 852-6442 or (406) 367-5513.