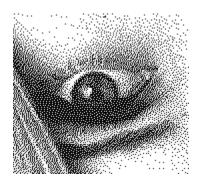# Graphic Workshop for Windows

FROM ALCHEMY MINDWORKS INC.

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Crop

This function will scale your selected file or files to fit your display window if they're too large. You can select areas of the displayed image by dragging a rectangle around the bits you like with your mouse. Select **Save** from the **Picture** menu to save the selected fragment.

Cropping is a batch function. Note that if you use **Esc** to abort one cropped file in a batch, the rest of the batch will be aborted.

Dither

Dithering is a sort of magical process by which colour images can be converted into pretty attractive black and white versions for reproduction on a monochrome screen or a black and white laser printer. The girl's eye in the index of this help file was created by dithering a colour image to black and white with Graphic Workshop.

Note that source files for dithering must have more than one bit of colour information.

Dithering often works a lot better if you scale the original image up. Graphic Workshop lets you dither with images of anywhere from "size as" up to 500 percent expansion if you have enough memory.

Note that the Dither only dithers to monochrome. Colour dithering is handled by one of the functions of **Effects** button and menu selection.

Dithering is a fairly slow process, and the better the dithering algorithm, the slower it gets. Big files and really good dithering can take half an hour or more on a slower computer, although the results are usually worth it.

At its best, dithering can look better than halftoning, and a dithered file can be printed on both PostScript and LaserJet printers. Dithered files sent to a PostScript printer will print faster than halftoned files.

If you have Graphic Workshop dither a file, it will create a new file for you of the type selected and with "D_" before the name. Thus PICTURE.GIF could be dithered to D_PICTUR.IMG, for example. PICTURE.GIF would be left untouched.

The simplest... and fastest... form of dithering is a **Bayer** dither. This doesn't produce great results, but it's extremely quick.

The remaining three dithering algorithms use what is called "error diffusion". These produce really nice looking dithers, but they're quite slow. The fastest... and least attractive... is **Floyd-Steinberg**. The best... and by far the slowest... is **Stucki**. The **Burkes** dither is somewhere in the middle.

All three of these dithers come in two flavours, ... **unidirectional** and **bidirectional**. These options will produce slightly different results.

Dithering scans an image line by line, starting in the upper left corner and working down to the lower right corner. For this reason, you will find that if you rotate an image by ninety degrees, dither it and then rotate the dithered version by a further two hundred and seventy degrees, you'll get different results than you would have had you dithered the original image.

In addition to true dithering, the Dither function also provides for thresholding. This will reduce a colour or grey scale image to black and white by setting a white threshold. The results will usually be an exceedingly contrasty image. The higher you set the threshold value, the darker your image will become. The threshold is point below which pixels in the source image will be considered to be black in the destination image.

Dithering is a batch function. You can tag a number of files and then set them up to dither unattended while you go for a Coke.

Effects

This function has a dialog box which will allow you to access a number of special tools for working with colour image files under Graphic Workshop.

All of these are batch functions. The destination files will have "X_" in front of their names. Note that these functions require substantial amounts of memory.

Colour reduction
This function allows you to create destination files with fewer colours than the source files they're derived from. You can use this function, for example, to reduce a 256-colour file down to a 16-colour one. It's particularly useful for reducing twenty-four bit files down to 256-colour files.

Whenever you reduce the number of colours in a file, some image information will get lost. The simplest form of colour reduction is "remapping". This simply means that the destination image will have the best colour palette it can, and that all the pixels in it will be replaced with colours from that palette. The results aren't usually very attractive.

Colour dithering, also available in this function, can produce decidedly better results. With colour dithering, you can reduce 24-bit files down to eight bits with very little loss of detail or colour resolution.

Colour dithering can work to either a "quantized" or "fixed" palette. A quantized palette is one which is selected from the image itself. A fixed palette is one which is the same for all images. In theory a quantized palette is preferable, but in practice it can produce poor results in images with small areas of widely differing colour or brightness. The **256-colour orthogonal palette** will often provide the best possible results. In addition, it's faster.

The 16-colour fixed Windows palette should be used to create images which are to be used in a 16-colour Windows environment, such as for Windows wallpaper.

Grey scale
This function creates a grey scale destination image from a colour source image. The number of bits of colour will remain the same.

Sharpen
This function will create a destination image with more contrast than its source image.

Soften
This function will create a destination image with less contrast than its source image. This function is particularly useful for minimizing the effects of scanning moire patterns caused when you attempt to scan a previously screened original. In less technical terms, if you scan pictures of nude women from magazines, softening the image files will reduce the interference patterns.

Smudge
This function will create a destination image which looks like it's being viewed through water drops.

Spatial posterization
This function will create a destination image in which the image is made up of large square areas. This effect is similar to the one used by television news to obscure the faces of people whose identities are to be kept secret.

Promote to twenty-four bits
This function will create a twenty-four bit file with the same image information as a file with fewer colours.

Get Information

This box will show you some basic information about one or more selected files. Some file formats actually contain a lot more information than can be displayed in the normal Info box. **TIFF** files, for example, can contain the name of the artist responsible for them, the type of software used to create them and so on. You can get at this sort of optional information for formats which support it by clicking on the Details button of the Info box when it's available. The arrow keys will scroll you through the detail window. Details are available, for example, if you get information about **GIF**, **TIFF** or **IFF/LBM** files.

You may need some external assistance in fully interpreting the details. For more information about the details of image file formats, consult the book **Graphic File Toolkit** by Steve Rimmer, published by Addison Wesley, ISBN 0-201-60846-4.

Print

Printing is a batch function. If you tag multiple files and then click on Print, each will be printed. Printing can render your graphics as eternal works of art or kill a lot of trees... quite the responsibility.

Graphic Workshop's printing facilities will be determined by the printing capabilities of your print driver. It will print in colour, print to unusual printers and so on if you have an appropriate printer driver installed in Windows.

You can set up your current printer by clicking on the <u>Setup</u> button of the Print box... you'd probably expect this. You can also select the size of your printed pictures using the Print box. The available percentage values represent the degree of expansion based on the resolution of your printer.

Consult the section on the <u>Setup</u> box to choose setup options which best suit your printer.

Printing under Windows is a lot slower than it is under DOS.

Reverse

This function will create a reversed version of any image file. The new file will have the same name as the original file, with "R_" appended to the front of it. Thus, reversing PICTURE.MAC will leave you with R_PICTUR.MAC. If you reverse a colour image, you'll get a colour negative. These look weird... we haven't found a use for them as yet.

Reversing is a batch function.

Scale

This function will allow you to scale files from 25 to 500 percent.

Your original files will not be altered when you scale them. New files with the prefix "S_" will be created. Thus, PICTURE.GIF will produce S_PICTUR.GIF after scaling.

Scaling a picture can produce some really ugly results, depending on what you scale. Bear in mind that scaling by integral values... down to seventy five or fifty percent, up to two hundred percent and so on... will produce less ugly results than scaling by arbitrary values.

The scaling values you enter will be rounded to the nearest lower integral value. Thus, 42.5 percent will really be 42 percent.

Scaling is fairly time consuming.

You should probably avoid scaling dithered monochrome pictures down. Nothing terribly bad will happen, but for reasons which will become obvious if you think about it, the results will almost always be really ugly.

Note that the scaling percentage you enter determines the size of the destination image relative to the source image, not the actual percentage of scaling. Thus, entering 25 will produce a destination image which is one quarter... 25 percent... of the original image. Entering 200 will create a destination image twice as big... 200 percent of... the original. Entering 100 will produce a destination image identical to the source image.

By default, scaling will be the same in both dimensions. If you select the **Anamorphic** option you will be able to enter independent horizontal and vertical values.

You can also scale pictures to a specific size. If you select the **By Size** option and then enter the dimensions in pixels into the Scaling box, Graphic Workshop will calculate the appropriate scaling factors to make you pictures come out to the size you've selected.

Scaling is a batch function.

Transform

This function will pop up a dialog box   offering you five image transformations. You can **rotate** an image in ninety degree increments and you can flip it **horizontally** or **vertically**. These functions work on images of any number of colours.

Note that the ninety and two hundred and seventy degree rotation functions will take a very long time if your images are large. Them's the breaks.

Transformed images will be stored in files with "T_" in front of the names. Thus PICTURE.GIF will become T_PICTUR.GIF after any of the five transformations have been wrought upon it. If you rotate it and then flip the rotated image, for example, it will become T_T_PICT.GIF, and so on, with intermediate files along the way.

Transforming is a batch function.

View

If you double click on a file name or select one and then click on the View button, Graphic Workshop will display the selected file. Select multiple files and click on View to show several files one after another. The View function will start by showing you a wait box, which has a bar graph in it to indicate the status of what you've asked Graphic Workshop to do. When the picture is fully unpacked, Graphic Workshop will open a display window   and show you the picture.

If the picture is larger than your screen, the cursor keys will allow you to pan around it. Normally you will pan around in small increments. If you hold down either shift key when you hit a cursor key, you will move around in larger increments. You can also move around a large image using the scroll bars.

Hitting **Esc** or **Enter** will return you to the main screen. If you have selected multiple files to view at once, Enter will display the next file and Esc will abort any further files and return you to the main screen.

Depending upon the Setup box settings, Graphic Workshop will dither pictures with more colours than your display can manage. It may also warn you if you attempt to view a twenty-four bit image without dithering enabled, as this function can take a long time and cannot be aborted once the display begins to refresh. These options are discussed in dealing with the Setup box.

Note: if you have a sixteen-colour Windows screen driver installed, Graphic Workshop for Windows will treat your display as if it can only manage sixteen colours. This is a limitation of Windows. If you want to see 256-colour images in full colour, get the appropriate 256-colour Windows screen driver for your display card.

Consult the About box if you are uncertain about the colour facilities of your current screen driver.

In the sixteen and 256 colour display modes, you can make adjustments to the VGA colour palette while a picture is being displayed. This can be handled either by opening the **Adjust** box from the **Picture** menu   or by using the colour adjustment keys, as follows. The 'r' and 'R' keys will increase and decrease the amount of red in a picture, the 'g' and 'G' keys will adjust the amount of green, the 'b' and 'B' keys will adjust the amount of blue. The 'i' and 'I' keys will adjust the overall intensity of the picture. The 'c' and 'C' keys will adjust the contrast. The '=' key will return the picture to its normal state. Note that these adjustments only affect the original picture that you're viewing... they do not alter the palette in the file on your disk unless you save the changes to a new file.

You can save an adjusted picture to a new file by selecting **Save** from the **Picture** menu. Note that if you are viewing a dithered version of an image, the file you save with the Save function will be dithered too.

You can get information about an image while you're in View mode by selecting **Get Info** from the **Picture** menu.

About

This function will display an About box with the version number of your copy of Graphic Workshop, our address and some other dogma. It will also include a display of the available memory. Note that this memory value may include virtual memory available to Windows but not of much use to Graphic Workshop, and as such be artificially high. This box also appears when you exit an unregistered copy of Graphic Workshop.

The About box will tell you the maximum number of colours your current Windows screen driver can display before Graphic Workshop will dither or remap your pictures in the View mode. If you see coarse dithered images, compare this value to the number of colours for the image you are attempting to view, as found with the Get Info function.

See the section on Registering Graphic Workshop for more information about shutting off this box.

Clear All

This button untags any previously selected files. See also Tag All.

Delete

This button deletes all the currently selected files. A prompt will appear to make sure you really want to do this.

Quit

This function terminates Graphic Workshop. It will save any changes made to the <u>Setup</u> box.

If you're using an unregistered copy of Graphic Workshop, you'll get another look at the <u>About</u> box when you quit. This will not happen to registered copies.

You can disable the prompt which asks you if you want to quit in the Setup box.

Rename

This button will prompt you to rename each of the currently selected files.

Setup

You can configure Graphic Workshop by clicking on the Setup button. This will open a dialog box with the available setup options. Any changes you make will be saved when you exit Graphic Workshop, and will be in place the next time you boot it up. The current configuration is saved in a file called GWS.INI in your \WINDOWS directory.

In most cases the default values will prove applicable to typical Windows hardware.

Untag After View
If this option is enabled, all the tagged file names will be cleared after executing a View command using the View button. Note that this does not affect viewing by double clicking on a file name.

Pause After Functions
If this option is enabled, Graphic Workshop will pause after batch operations even if no errors have occurred. Normally it will only pause if one or more files were not processed due to errors.

Create GIF 89a Files
If this option is enabled, GIF files created by Graphic Workshop will be type 89a, and will include a comment block. If it's not enabled, Graphic Workshop will create type 87a GIF files.

MacPaint with MacBinary header
If this option is enabled, MacPaint files created by Graphic Workshop will include a MacBinary header. Disable this option if you are creating MacPaint files for use with PFS:First Publisher.

Warn Before Viewing RGB
If this option is enabled, attempting to view a twenty-four bit image without dithering enabled will cause Graphic Workshop to display a message telling you that the viewing procedure will take a long time, and will not be abortable. Disable this option if you have a fifteen- or twenty-four bit display card, or if you have enabled one of the view dithering options.

Create IFF Files with PBM Pack
If this option is enabled, 256-colour IFF/LBM files will be created using the proprietary packing format used by Deluxe Paint. This provides files which read faster and usually compress better, but which will not be readable by other applications that accept IFF files. Disable this option if you plan to port IFF files created by Graphic Workshop to an Amiga.

Dither Files When Viewing
If this option is enabled, all colour files will be dithered prior to viewing them. This will produce the most faithful colour representation possible on a sixteen-colour display, but at a considerable loss of resolution.

Dither Extra Colours Only
If this option is enabled, only those colour images with more colours than your display can handle will be dithered. If you enable this option, make sure to disable the Dither Files When Viewing Option. Most users will want to have this option enabled.

Expand Grey Scale TIFF Files
If this option is enabled, Graphic Workshop will create grey scale TIFF files which are suitable for printing from within a desktop publishing chapter or word processing document to a PostScript laser printer. Disable this option if you plan to use your TIFF files with a grey scale

editing or retouching package. This option is ignored if you have Graphic Workshop set up to produce colour TIFF files.

Create Colour TIFF Files
If this option is created, images with between four and 256 colours written to the TIFF format will be stored as colour files. If it's disabled they'll be stored as grey scale files. Twenty-four bit images will always be stored as colour TIFF files.

Create Compressed TIFF Files
If this item is enabled, TIFF files will be created using PackBits run length compression. If it's disabled, they'll be created uncompressed. Note that twenty-four bit TIFF files are always stored uncompressed.

Create Compressed EXE Pictures
If this item is enabled, images written to the EXE self-displaying pictures option will be stored using run-length compression. If it's not enabled they'll be stored without compression. Note that complex scanned images may result in smaller EXE files if they're stored uncompressed.

Create Compressed IFF Files
If this item is enabled, images written to the IFF/LBM format will be stored using PackBits run length compression. If it's not enabled, IFF/LBM files will be written uncompressed.

Dither Printed Halftones
If this item is enabled, colour or grey scale images will be dithered prior to printing. Enable this option if you are using a printer driver which cannot support halftones.

Expand Printed Halftones
If this item is enabled, colour pictures being printed will be algorythmically converted to grey scales and expanded to compensate for the contrast loss in PostScript printers. Enable this option if you're using a monochrome printer which can produce true halftones. Disable it if you're driving a colour printer.

Create Targa 16
If this item is enabled, true colour images written to Targa (TGA) files will be stored with sixteen bits of colour per pixel, rather than 24 bits. This will reduce the file size by a third, with some loss of colour resolution. See the section on Targa files for more information.

Auto Create Thumbnails
If this item is enabled, a new thumbnail file will be created whenever a new file is written to the disk by Graphic Workshop.

Prompt for GIF Comments
If this item is enabled, a dialog box will appear whenever Graphic Workshop writes a GIF file, allowing you to add a comment block to the file. The Create GIF 89a option must be enabled. See the section on GIF files.

Dither on JPEG Read
If this item is enabled, files read in the JPG format will be dithered. This usually offers the best representation of JPEG files.

Read JPEG as RGB files
If this item is enabled, JPEG files will be read as 24-bit images. This will provide you with true colour pictures, but it will mean that they'll be dithered for viewing unless you're using a high colour or true colour Windows screen driver. In addition, you will not be able to convert

them directly to colour mapped formats, such as GIF... the colour reduction function of Effects will allow you to do so, however. If you disable this feature, JPEG files will be read as 256-colour images, suitable for normal viewing and conversion. In most applications you'll want this item disabled.

Registration Number
Registration Name
When you register Graphic Workshop, type in the registration number provided with your confirmation letter in the registration number field and your name as it is in the letter in the registration name field. This will disable the About box when you exit Graphic Workshop and list you as a registered user of the software when you click on the About button. See the section on Registration elsewhere in this document.

Startup Directory
If you fill in a path specification in this field, Graphic Workshop will log into the specified directory when it boots up. Note that this field is not checked for validity... if it does not specify a valid path it will be ignored. It should end with a backslash.

JPEG Quality
This item will let you set the amount of detail JPEG compression is allowed to discard in compressing files. See the section on JPEG files for more information.

Allow Directory Extensions
If this item is enabled, the main file finder screen will look for directory names with extensions, such as
PICTURES.DIR. If it's not enabled, such directories will be ignored. Searching for directory extensions
takes longer in a crowded directory.

Write OS/2 Bitmaps
If this item is enabled, files written to the BMP format will be created for use with OS/2 applications. If
it's not enabled, BMP files will be created for use with Windows. Note that most Windows applications
can't read OS/2 BMP files. (Graphic Workshop can, of course.)

Check for Photo-CD
If this option is enabled, Graphic Workshop will automatically find the images on a Kodak Photo-CD if
you log into one.

Prompt for Destination
If this option is enabled, Graphic Workshop will prompt you for a destination directory for the images it
writes. You must enable this option if you want to convert files from a read-only medium, such as a CD-
ROM.

Photo-CD Read Options
This field will define how images will be read from Photo-CD PCD files. See the section on Kodak Photo-
CDs for more information.

Tag all

This button selects all the currently available files, save for drive and directory names.

MacPaint

MacPaint files can come in two flavours. The most common one is straight ported MacPaint files, that is, files having a "MacBinary" header. The other is "headerless" files, these being the ones used with **PFS:First Publisher**. Graphic Workshop reads both types, but if you convert a file from a different format to MacPaint format the file will be written in accordance with the setting of the MacBinary header field in the <u>Setup</u> box.

Files converted to the MacPaint format from other formats will be cropped or padded out as necessary to fit in the MacPaint format's 576 by 720 format. Only monochrome files can be converted to MacPaint files, since MacPaint in a monochrome-only format.

Ventura GEM/IMG

There are actually quite a few variations on IMG files... they handle monochrome and grey level images. The primary application for IMG files is as the bitmapped image file format of **Ventura Publisher**. Graphic Workshop supports files with up to 256 levels of grey and 24-bit IMG files with up to sixteen-million colours. Note that 24-bit IMG files are only supported by **Ventura 4.0** and better.

PC Paintbrush PCX

PCX files are the files used to hold images for Z-Soft's PC Paintbrush package. These can range from monochrome to 24-bit images. All the various formats are supported by Graphic Workshop.

CompuServe GIF

GIF Files can range from monochrome to 256-colour images in any size you can find 'em. Graphic Workshop supports both the 87a and 89a versions of the GIF standard. It will read the first image of GIF files having multiple images.

The Details function of the Get Info box will display the entire structure of a GIF file. Many newer GIF files contain text information along with their images.

If you enabled the **Prompt for GIF comments** and the **Create GIF 89a files** options of the Setup box, you'll be prompted for text to install in a comment block for each GIF file created by Graphic Workshop. This will allow you to insert your own comments, which will turn up in the Details function of **Get Info**.

Rather than typing text into the **Get Comments** box, you can type in the path to a text file, preceded by an @ character. In this case, Graphic Workshop will load the contents of the text file into memory and use it as a comment. The text file must be plain ASCII, rather than a proprietary word processor document.

TIFF

The TIFF options in Graphic Workshop can get a bit involved. The TIFF format offers lots of options to make it applicable to a wide variety of applications... which entails a certain amount of confusion, as well. Registered users of Graphic Workshop are welcome to contact us for help in unraveling the TIFF options if needs be.

Graphic workshop supports monochrome, colour and grey scale TIFF files. Grey scale TIFF files can be created by converting any colour format into TIFF with Graphic Workshop set up to produce grey scale TIFF files using the appropriate options of the Setup box. These import into desktop publishing packages such as **Ventura** for sharp looking PostScript halftones.

Note that as of this writing Ventura will read grey scale TIFF files correctly. It seems to invert some colour TIFF files.

Colour TIFF files are useful in **Corel Draw**, among other places. Corel Draw 2.0 will import colour TIFF files for inclusion in CDR graphics. This is preferable to importing colour PCX files, as the size of a TIFF file in Corel Draw is preserved.

Some applications have trouble reading grey scale TIFF files which have been compressed... Gray F/X chokes on them as of this writing, for example. Others read 'em fine. For this reason, Graphic Workshop defaults to creating compressed grey scale TIFF files but you can tell it not to compress them if you're not sure that whatever you'll be importing them into will read them.

Note that due to the wide variations among the programs which produce TIFF files, Graphic Workshop would be lying rather badly if it claimed to be able to read all TIFF files. Specifically, it does not read LZW compressed TIFF files as yet, as we haven't devised code to do this in a reasonable amount of space.

When you're creating TIFF files which will be used as desktop publishing art or in other situations wherein they'll be printed to a PostScript printer, you should create them with greyscale expansion enabled. If they will be displayed on a monitor or edited in a paint program, you may want to create them with greyscale expansion disabled.

Whether you create colour or grey scale TIFF files will be largely dependant on the application you want your TIFF files to be read by. Here are a few guidelines:

> If you want to import TIFF files into **Ventura** or **PageMaker** so they'll output as halftones to a PostScript printer, use grey scale TIFF files with grey scale expansion enabled.

> If you want to import colour TIFF files into **Corel Draw** to print to a colour output device, use colour TIFF files... the grey scale expansion doesn't matter.

> If you want to import colour TIFF files into **Corel Draw** to print to a monochrome output device, use grey scale TIFF files with the grey scale expansion enabled.

> If you want to import grey scale TIFF files into a paint or image editing package, such as **ImageIn** or **Desktop Paint 256**, use grey scale TIFF files with the grey scale expansion disabled.

Note also that Graphic Workshop packs TIFF files with an eye to maximum unpacking speed, rather than for optimum compression. As such, pictures with between 32 and 256 colours

will be promoted to 256 colours. Pictures with between four and sixteen colours will be promoted to sixteen colours.

WordPerfect WPG

WPG is the native import graphic files for **WordPerfect**. These files can contain both bitmaps and line art, or vector graphics. Graphic Workshop can only deal with the bitmapped parts of them. If you view, print or convert a WPG file containing both bitmapped and vector elements, the vector elements will be discarded.

WPG files which refuse to read with Graphic Workshop are usually those which contain only vector elements and no bitmaps. If you use the Get Info function on a WPG file which does not read, the comments field of the file information box will say "**Vector file**" if this is the case.

Graphic Workshop will deal with WPG files having one, four or eight bits of colour information, that is, monochrome files, sixteen-colour files and 256-colour files.

The WPG specification allows for 256-colour files. As of this writing, some versions of **WordPerfect** itself would not read them. If you wish to use 256-colour images in a **WordPerfect** document, you might want to either reduce them to sixteen colours or dither them to monochrome, depending upon what you'll be outputting them to.

Microsoft Paint MSP

MSP files are the image files used by the paint program which came with **Microsoft Windows** version 2. Don't confuse these with <u>PCX</u> files... some versions of Windows 2 came with a Windows implementation of **PC Paintbrush** from ZSoft as well. The two programs... and the two file formats... are not compatible. MSP files are monochrome only.

Deluxe Paint IFF/LBM

The IFF format started out on the **Amiga**. The IFF file standard is extremely flexible, and allows all sorts of things besides images to be stored in IFF files. IFF files are found on the PC having been ported from Amiga systems. They are also created on the PC by several applications such as Electronic Arts' **Deluxe Paint** package and Digital Vision's **Computer Eyes** video scanner board. In the first case they are given the extension LBM. In the second they are given the extension CE. The basic file structure is the same, however.

Deluxe Paint is a bit of a problem in the way it deals with IFF files, actually. This affects 256 colour files. Its native format is a subclass of IFF called PBM, and compresses its images as bytes. It's somewhat unique to Deluxe Paint, and Electronic Arts won't tell anyone quite how it works. You can actually work it out to a large degree, but every so often a file created in this format in the way it seems like it should be done refuses to load into Deluxe Paint.

The standard form for IFF image files is called ILBM, compressing all images as planes. This is much slower, but it means that files thus compressed will be readable by pretty well all IFF readers... even if you port 'em back to the Amiga. This is how Graphic Workshop creates IFF files. Unfortunately, there's a problem with old versions of Deluxe Paint which will occasionally cause them to stop reading one of these files part way through the image. This happens to IFF files from sources other than Graphic Workshop, so it's probably a bug in these versions of Deluxe Paint. It appears to have been rectified in more recent releases.

If you encounter an image which, when converted into an IFF file will not read into Deluxe Paint, use Setup to tell Graphic Workshop to produce an **uncompressed** IFF file. Uncompressed files read into Deluxe Paint with no difficulty.

Note that Graphic Workshop only reads "pure" IFF files, and will not handle the countless variations on the format which have appeared on the Amiga. Specifically, it does not read hold and modify, or HAM, files.

Windows BMP

These are the files which are used as "wallpaper" under **Windows 3**. They can be created using the Paint application supplied with Windows.

BMP files use no image compression, as the intention appears to be to make them fast to load. Plan on your BMP files being very large.

There is a very important aspect of colour BMP files which you should bear in mind when you use this format. Windows uses a fixed palette which Windows Paint cannot go about changing, as doing so would make the screen and border colours change too. This means that transferring an image to the BMP format may result in some colour shifts when BMP files are imported into Windows applications.

The BMP format can support 24-bit files, which Graphic Workshop does generate. However, as of this writing importing a 24-bit BMP image into Windows Paint results in a noticeable colour shift. This appears to be a peculiarity of Windows Paint.

Windows RLE

The RLE format is actually a variation on the <u>BMP</u> format. It has two primary uses under Windows. It can be used to create compressed wallpaper files and it can be used to replace the opening Windows logo screen with one of your own choosing.

The RLE format uses compression, unlike   BMP files, and as such wallpaper created as RLE files will occupy less space on your disk. At least, it should. If you store very complex scanned or dithered images in the RLE format, they may confuse the run length encoding procedure and actually result in larger files than they would have created as BMP files.

To use an RLE file as wallpaper, place the file you wish to use in your \WINDOWS subdirectory. Use the Windows control panel to select your wallpaper file as you normally would... the only difference is that you will have to type in the name of the RLE file you wish to use, as the file selector in the control panel only looks for BMP files.

Using an RLE file to change the startup Windows logo is a bit tricky, but it's arguably worth the effort if you're tired of looking at the Microsoft ad. You will need a sixteen-colour RLE image of the dimensions 640 by 480... 640 by 350 if you use an EGA card. The RLE file should be no larger than 40 or 50 kilobytes, and smaller if possible. For this example, we'll allow that the file is called NEWLOGO.RLE, located in the \WINDOWS subdirectory.

Go to the \WINDOWS\SYSTEM subdirectory and issue the following command at the DOS prompt.

COPY /B WIN.CNF+VGALOGO.LGO +C:\WINDOWS\NEWLOGO.RLE C:\WINDOWS\WIN2.COM

This will create a new program called WIN2.COM. If you start Windows by typing WIN2, rather than WIN, you will see your logo rather than Microsoft's. This will not affect your normal WIN.COM program.

There are several things to be aware of in this procedure. The most important is that the resulting WIN2.COM cannot be bigger than 65535 bytes, which is why you must keep your RLE file down to a modest size. If it exceeds these limits, WIN2.COM will refuse to run.

Secondly, if your RLE file is of dimensions other than those of your screen, it will appear incorrectly placed.

Thirdly, if you will be using an EGA card, replace the VGALOGO.LGO file, above, with EGALOGO.LGO.

Note that when a file is converted to the sixteen-colour RLE format by Graphic Workshop for Windows, it is permanently remapped to the Windows default palette. This may result in a noticeable colour shift for some images.

Graphic Workshop for Windows will read *most*   RLE files from other sources. One known exception is the VGALOGO.RLE file provided with Windows 3.1.

Pictor PIC

These should not be confused with Lotus 1-2-3 PIC drawing files.

PIC files are created by **PC Paint / Pictor** (not PC Paintbrush) and are used by **Grasp**, among other things.

PIC files are structured exceedingly weirdly, especially in their sixteen-colour manifestations. For this reason, it's necessary for Graphic Workshop to create a temporary scratch file while it's packing or unpacking a sixteen-colour PIC file. You will note that upon beginning to read or write one, the bar graph will appear to pause for a few seconds before it starts to move.

By default, the temporary file will be written to the current directory. However, you can direct it to somewhere else by including the following line in your environment, for example:

        SET TEMP=H:\

This will cause the temporary file to be written to the root directory of drive H:. You can, of course, specify any path you like. If drive H: is a RAM drive, this will speed up the packing and unpacking of sixteen-colour PIC files considerably.

Truevision Targa

The Truevision Targa format is used by several high end paint programs and things like ray tracing packages. It can handle images with up to sixteen million unique colours. You might want to read the discussion of images with 24-bit colour in GWS.DOC for more information about this.

You can reduce the amount of space true colour Targa files occupy by selecting the **Write Targa 16** option in the <u>Setup</u> box. This will reduce the file size by about a third, with some loss of colour resolution.

EXE Self-displaying Pictures

You can convert images with between two and 256 colours to files with the extension EXE. Such files are self displaying pictures. For example, if you have a file called PICTURE.GIF and you use Graphic Workshop to translate it to PICTURE.EXE, typing PICTURE from the command line will cause the picture to display on your screen.

Note that these are DOS EXE pictures, not Windows EXE pictures. They're compatible with the EXE pictures created by Graphic Workshop for DOS.

Pictures written into the EXE format can subsequently be read back into any other format. However, note that Graphic Workshop can only read EXE files which it has created. Use the Get Info function to check out EXE files if you aren't sure whether they're pictures or programs.

Graphic Workshop will not read self displaying pictures written by other applications.

In order for an EXE picture to display, the system which you attempt to run it on must have a card which supports enough colours to show the picture under Graphic Workshop. Specifically, you will need a VGA card to display an EXE picture with 256 colours, at least an EGA card to display one with 16 colours and so on.

Pictures displayed by converting them to EXE files and running them can't be panned around, even if they're larger than your screen. Hitting any key will return you to DOS.

An EXE picture created by Graphic Workshop will attempt to autodetect the display card type in the machine it's run on. Some cards are sufficiently weird that this isn't always possible. To get around this,
you can run EXE pictures with display card command line overrides. These are the command line switches an EXE picture will accept:

/CGA   Assume there's a CGA card in the system.
/EGA   Assume there's an EGA card in the system.
/VGA   Assume there's a VGA card in the system.
/HER   Assume there's a Hercules card in the system.
/VER   Display the version number of the EXE file.
/PAR   Assume there's a Paradise card in the system.
/ATI   Assume there's an ATI card in the system.
/TNG   Assume there's a Tseng 4000 card in the system.
/TRI   Assume there's a Trident 8900 card in the system.
/OAK   Assume there's an Oak card in the system.
/VSA   Assume there's a VESA-compatible card in the system.
/DIS   Disable the return to text mode.
/Wnn Wait nn (00 through 99) seconds.
/KEY   Allow keyboard hits to abort waiting
/FAD   Fade in and out (VGA cards only)

If you run an EXE picture with a question mark as its command line argument, it will display a list of its command line switches, just like Graphic Workshop itself.

The command line switches assume that you're using DOS 3.0 or better.

In its standard VGA or autodetection modes, an EXE picture will only display 256 colours at 320 by 200 pixels. If you use one of the super VGA override switches from the list above,

your picture will display in 640 by 480 pixels at 256 colours. This assumes that you select the appropriate switch, that your card has at least 512 kilobytes of memory in board and that your monitor will sync at this resolution.

Note that when you hit a key to end the display of a picture, the ASCII code of the key will be returned as a DOS error level, which can be trapped in a batch file. If your picture terminates because of the /Wnn switch instead, the error level will be zero.

You can create EXE picture files either compressed or uncompressed. This can be selected through the Graphic Workshop Setup box. Uncompressed files display quickly but take up a lot of disk space. Compressed files usually occupy less space but display a bit slower. Note that especially in complex scanned or dithered images, you might find that compression actually results in a larger file than leaving an image uncompressed.

For more information about the EXE file options, consult the Graphic Workshop for Windows documentation.

Text Files

Graphic Workshop will create a 640 by 400 pixel, two colour image from any ASCII text file. The text will by truncated at 80 columns and 25 lines if exceeds either dimension. It can contain both alphabetic characters and high order IBM block graphic characters. Tabs are expanded and all other control characters except for carriage returns are ignored.

Note that a suitable text file must be in pure ASCII, not a proprietary word processor format. It must have the extension TXT.

If you convert another file to the TXT format, the image information about the file... its dimensions and such... will be written to the appropriately named TXT file. If the format supports details, these will be written as well. This is a useful feature for extracting <u>GIF</u> file comments to a text file.

Note that as long as you're attempting to read files, you can treat text files just like other monochrome graphic files from within Graphic Workshop. As such, you can view them, convert from TXT and so on.

Halo CUT

The CUT format is exceedingly awkward, and Graphic Workshop makes a few assumptions about how CUT files will be used in order to make it workable. To begin with, CUT files don't know how many colours they have in them. They rely on a second file, called a PAL file, to define their colours.

Graphic Workshop looks for a PAL file to decide whether a CUT file has two bits or eight bits of colour. If it doesn't find a PAL file with the same name as your CUT file, it assumes that the CUT file in question only has two bits of colour. Otherwise, it assumes that there are 256 colours in the file.

Files written to the CUT format from Graphic Workshop will appear as two-colour files if they started out that way or as 256-colour files if they had more than two colours initially.

If you're using CUT files and have any suggestions to improve Graphic Workshop's handling of them, or if you encounter problems with its CUT files, please get in touch with us. The CUT format, while occasionally requested, turned out to be very weird.

PFS:First Publisher ART

The ART format is used to import graphics into **PFS:First Publisher** documents. It only supports monochrome pictures. Graphic Workshop will only read and write **uncompressed** ART files. If you encounter an ART file that will not read, use the Get Info function of Graphic Workshop to see if it's a compressed file.

JPEG (Joint Picture Experts Group) JPG

The JPEG format is actually a combination of several elements, and it's important that you understand what it does before you use it. The JPEG algorithm reduces the amount of space a compressed image will occupy on disk by selectively removing details from the image. Pictures with fewer details compress more effectively. The amount of detail removal is defined by the **JPEG quality** item of the <u>Setup</u> dialog box.

At the default value of 75, relatively little picture degradation will take place, but a significant amount of compression will be obtained. At lower values you'll experience still better compression, but with a marked loss of image quality.

The Independent JPEG Group, from whom this JPEG algorithm was obtained, have also defined a file format to hold JPEG files in, called JFIF. It's typically stored with the extension JPG.

Note that several other programs, such as **Lead Tools** and **Image Alchemy** have defined their own formats with the extension JPG. They are not compatible with the JPEG functions in Graphic Workshop. If you encounter an error reading a JPG file, you probably have a file from one of these sources.

Once an image has been converted to JPEG, its lost details are lost for good. Note also that repeatedly reading and writing the same image in the JPG format will successively degrade it.

If you convert an image from another format, such as GIF, to JPG and then from JPG back to GIF, the final GIF file will usually be smaller than the original.

At present all images converted into the JPG format will have 256 colours.

The legal requirement for using IJG's code is that we state:

This software is based in part on the work of the Independent JPEG Group.

Kodak Photo-CD PCD

Kodak Photo-CDs allow you to have conventional photographs converted to Kodak's proprietary CD-ROM format. The resulting files can be viewed, converted and treated like other PC file formats. In effect, having your photographs made into Photo-CDs will avail you of very high grade scanning, even if you don't own a scanner.

Not all CD-ROM drives can access Photo-CDs... you might want to contact Kodak for a list of those that can. We use Sony CDU-31A drives in house.

Photo-CD image files always reside in a directory named \PHOTO_CD\IMAGES on a Photo-CD. They're named by the following convention:

        IMGxxxx.PCD

where xxxx is a four digit number, beginning with one for the first image.

Each PCD file contains a number of scans of the same image at different resolutions. The very low resolution images are used for thumbnail previews. Medium-level images are useful to view and work with Photo-CD scans in a PC environment. Very high resolution images can pose a problem for PC applications running under Windows at the moment, as will be discussed.

You can tell Graphic Workshop to read Photo-CD images at a specfic resolution through the Setup box. If you choose one of the 256-colour options you'll see attractive images even if your display card only supports 256 colours. If you choose one of the RGB options you may see coarse dithered images when you view a Photo-CD image, but you'll be able to convert PCD files to high quality true colour images for use with colour separation and desktop publishing software, photographic retouching packages like PhotoStyler and so on.

If you use Graphic Workshop to convert from PCD files to another format, you must enable the Prompt for
destination option in the Setup box. If you don't do this, Graphic Workshop will attempt to write its
converted files to your CD-ROM drive, which would be a bit tricky, CD-ROMs being read-only.

By default, Graphic Workshop will check your current drive whenever you change drives to see if it's a Photo-CD, and will automatically log you into the \PHOTO_CD\IMAGES directory, where the PCD files are. You can disable this feature by turning off the Check for Photo-CD option in the Setup box if you like.

The higher resolution images in a PCD file may require more memory than your system can provide under Windows. Under Windows 3.1, no more than sixteen megabytes of memory can be allocated, no matter how much is in your system. Typically you'll have about ten megabytes at most free to store images in. The higher resolution read options for Photo-CDs are not useable under Graphic Workshop for Windows... they will be under Graphic Workshop for OS/2 and Graphic Workshop for Windows NT, when these packages are released.

The thumbnails for PCD files are not handled like thumbnails for other file formats. Specifically, there are no THN files used... the images are actually the lowest-resolution scans in the PCD files in question. This means that you cannot use the Details and Search functions with PCD thumbnails. The thumbnails will not appear if you have the Check for Photo-CD option in the Setup box switched off.

Contacting Alchemy Mindworks Inc.

We hope you'll contact us to register Graphic Workshop... see the section about <u>Registering</u> Graphic Workshop.

You can contact us by mail by writing to us at:

Alchemy Mindworks Inc.
P.O. Box 500
Beeton, Ontario
L0G 1A0
Canada

We will attempt to answer questions from unregistered users who write to us to the extent that their answers are needed for you to fully determine whether Graphic Workshop will suit your requirements.

Our order line is available 24 hours a day at 1-800-263-1138 for callers from within the United States and at (416) 729-4969 from other areas. There is no one at this number who can answer technical questions about Graphic Workshop.

We can also be reached through the Alchemy Mindworks bulletin board. It's available twenty-four hours a day at (416) 729-4609. As of this writing, the protocol was 300, 1200 or 2400 baud, or 9600 baud v.32*bis*, eight data bits, no parity and one stop bit.

Note: All our non-800 numbers will be changing to area code 905 as of October 4, 1993.

The bulletin board always has the most recent versions of all our shareware on it, plus bug fixes, drivers and other relevant information. It only exists to support Alchemy Mindworks' shareware... it does not have a general file area.

If you encounter problems with a file, you're welcome to upload the errant file to our bulletin board. Actually, you can upload any picture files you like to the board... we enjoy getting pictures.

If you have a question about Graphic Workshop, feel free to leave it on the bulletin board. We try to answer all questions within twenty-four hours. Note that you must call back to retrieve your answer... please don't ask us to phone you or to leave the answer on another bulletin board.

Registered users of Graphic Workshop will receive our voice number for immediate technical support. The voice number is only available for use from 10:00am to 5:00pm EST. If you call and get our answering machine... it does happen... please leave us a message or call back later. We are only able to return long distance calls if we can call you collect. In this regard, please note that as of this writing Canada has a very peculiar electronic voice mail collect call system... if the phone company's computer starts talking when you pick up the phone, it's probably us returning your call.

We ask that in contacting us you appreciate that we are a small company with limited resources. If you have not registered Graphic Workshop we will not tell you to go to hell, but please don't ask us for half an hour of free technical support.

Registering Graphic Workshop

If you like this program and find it useful, you are requested to support it by sending us $40.00. This will entitle you to telephone support, notification of updates, a free copy of the latest version of Graphic Workshop for Windows and other worthwhile things. More to the point, though, it'll make you feel good. We've not infested the program with excessive beg notices, crippled it or had it verbally insult you after ten days. We trust you to support Graphic Workshop if you like it.

At such time as you do register Graphic Workshop, the **About** box will stop appearing when you exit the program.

If you want to see additional features in Graphic Workshop, register your software. If we had an Arcturian mega-dollar for everyone who has said they'd most certainly register their copy if we'd add just one more thing to it, we could buy ourselves a universe and retire.

Oh yes... should you fail to support this program and continue to use it, a leather winged demon of the night will tear itself, shrieking blood and fury, from the endless caverns of the nether world, hurl itself into the darkness with a thirst for blood on its slavering fangs and search the very threads of time for the throbbing of your heartbeat. Just thought you'd want to know that.

Our address is:

> **Alchemy Mindworks Inc.**
> **P.O. Box 500**
> **Beeton, Ontario**
> **L0G 1A0**
> **Canada**

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You can also **FAX** us your order at **(416) 729-4156**.

Note: All our non-800 numbers will be changing to area code 905 as of October 4, 1993.

If you have previously registered Graphic Workshop for Windows you can **update** your copy for $20.

If you have a FAX number, please include it in your registration. We're hoping to be able to handle notification of future updates of Graphic Workshop by FAX where we can. This is both considerably faster and a lot cheaper than mail.

If you have previously registered a copy of Graphic Workshop for DOS, revision 6.1a or newer and would like to register Graphic Workshop for Windows, you can do so for $30.00.

Canadian users

The registration fee for Graphic Workshop is $40.00 (CDN) plus seven percent GST, or $42.80. We sincerely regret collecting this tax on behalf of several levels of government which will only squander it. If you sincerely regret having to pay it, we urge you to express your regret by voting in the next federal and provincial elections.

American users
The registration fee for Graphic Workshop is $40.00 (US). The exchange on US funds pretty well covers the extra postage to the States.

Other users
The registration fee for Graphic Workshop is $40.00 (US). If you pay us by cheque, please make sure that it's a cheque drawn on an international bank, and that it will be negotiable in Canada. If there's no bank clearance number along the bottom of the cheque, it will not clear.

Paying by credit card
We can accept payment by **Visa** only. We need your Visa card number and expiry date and the name which appears on your card. We also need written authorization to debit your Visa account for the specific amount you're sending us.

We cannot accept **MasterCard**, **American Express** or other credit cards. We are not able to ship registered copies of software prior to receiving payment. We cannot accept **purchase orders** for single unit quantities of software.

Reporting Problems

While we have tested Graphic Workshop thoroughly, it's possible that you may encounter a situation we haven't anticipated, and perhaps a file which will not read. If this happens, we would be interested in knowing about it so we can deal with it in the next release of Graphic Workshop. Here's how to report a problem to us.

Copy your WIN.INI, SYSTEM.INI, GWS.INI, CONFIG.SYS and AUTOEXEC.BAT files onto a floppy. Copy the image files which resulted in the problem and provide a description of what you did and what happened. Tell us in as much detail as possible what sort of hardware you're using.

Alternately, ZIP up the relevant files and upload them to our bulletin board.

If we can't recreate it, we probably won't be able to fix it.

Before you contact us with a problem in Graphic Workshop, please make sure you've read this document thoroughly and that you understand how the software should work. Many problem reports which receive aren't problems with the software at all.

Distributors Outside North America

British users of Graphic Workshop for Windows should contact our UK distributor, The Public Domain & Shareware Library Ltd., Winscombe House, Beacon Road, Crowborough, Sussex, TN6 1UL, England, telephone 0892 663298, FAX 0892 667473, BBS 0892 661149.

German users of Graphic Workshop for Windows should contact one of our German distributors:

> PD-SERVICE-LAGE, Postfach 1743, D-4937 Lage, Germany.
>
> PEARL AGENCY Deutschland, Tel 07631 120 91-99, Fax 07631 120 08-9, BTX *PEARL#

Austrian users of Graphic Workshop for Windows should contact PEARL AGENCY Österreich, Grünburgerstr. 7a, A-4540 Bad Hall, Tel 07258 53 33, Fax 07258 5315.

Swiss users of Graphic Workshop for Windows should contact PEARL AGENCY Schweiz, Großmattstr. 16, CH-8964 Rudolfstein, Tel 05731 70 20, Fax 05731 70 30.

French users of Graphic Workshop for Windows should contact our French distributor, DP Tool Club, 102 rue des fusilles, 59650 Villeneuve d'Ascq, France, telephone (33) 20 56 55 33, fax (33) 20 56 55 25.

Danish users of Graphic Workshop for Windows should contact Prof Shareware, Benloese Skel 4 G, DK 4100, Ringsted, Denmark.

Add Thumbnails

If you select one or more files in Thumbnail mode and then select **Add Thumbnails** from the **Thumbnails** menu, thumbnail images will be created for each of the selected images. These will replace the default no picture symbols, the red circles. Each thumbnail is stored in a THN file, and requires about nine kilobytes of hard drive space.

If two images exist with the same file name but different extensions, they will share a common thumbnail.

This function is only available when Graphic Workshop is in its thumbnail mode.

Delete Thumbnails

The **Delete Thumbnails** function of the **Thumbnails** menu will remove the thumbnail images, comments and key words for all the selected images. The thumbnail images will be removed from Graphic Workshop's window, to be replaced by red circle icons, indicating that thumbnail images are not available.

This function is only available when Graphic Workshop is in its thumbnail mode.

Thumbnail Details

The **Details** function of the **Thumbnails** menu will allow you to add comments and key words to an image. This information will actually be stored in the THN thumbnail file associated with the image in question.

You can store anything you like in the **Comments** field of the **Thumbnail Details** box. The key words should contain information to search by. For example, in adding key words to pictures of animals, you might use key words such as BIRD, AMPHIBIAN, INSECT, ELEPHANT, POLITICIAN and so on. See the section on Thumbnail Search for more information.

Thumbnails Search

The **Search** function of the **Thumbnails** menu will allow you to search through all the images with thumbnail entries in your current directory by key words. Any entries which match the key words you specify will be selected. You can subsequently view, print, examine or change the details and otherwise perform the usual Graphic Workshop batch functions on them.

If you enter more than one key word into the Thumbnails Search box, you can select how the search should treat them using the **And** and **Or** buttons. With **And** selected, only those entries having all the key words you've entered will be matched. With **Or** selected, any entry having at least one of the key words you've entered will be matched.

If you disable the **Clear tags before search** option, any currently selected entries will be left selected by the search.

Use Thumbnails

The Use Thumbnails item of the Thumbnails menu will toggle between the normal text mode and the graphic thumbnail mode of Graphic Workshop. Both modes offer the same functionality, except that the text mode does not allow for the thumbnail-specific features of the package to be accessed.

You can define which mode Graphic Workshop will boot up in using the **Start in thumbnail mode** item of the Setup box.

Changing Drives and Directories

In the text file name selection mode of Graphic Workshop for Windows you can changed drives by double clicking on the drive letter you wish to select. The drive letters are in square brackets after the file names.

You can change directories by clicking in the directory name you wish to move into or on the entry with two dots to move up by one level in your directory tree. These entries will also appear after the file names in the selection box.

In the thumbnail mode, you can change drives by double clicking on the appropriate drive icon. You can change directories by double clicking on the appropriate directory icon, as indicated by an image of a tree of folders. These items will appear at the end of the list of thumbnails.

You can also change drives and directories by selecting the Change Directories item from the File menu. This will present you with a conventional Windows file selection dialog.

Note: if you are running on a Novell network, the two dot entry used for moving up a directory tree may not present. In this case, you must use the Change Directories dialog.