Graphic Workshop for Windows

FROM ALCHEMY MINDWORKS INC.

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Slideshow

You can set up a sequence of images to display unattended under Graphic Workshop. Click on each graphic you'd like to include in your slide show and select Slide Show from the Image menu, or hold down the Shift key and click on the View button. A dialog will appear to allow you to configure the slide show options.

The duration value for the slides can range between one and 255 seconds. If the Loop option is enabled, the slide show will run continuously -- when it gets through all your selected images, it will return to the first image in the sequence and start over.

The Show Titles option will determine whether the name of each file in the slide show is displayed below the image.

When a slide show is running, hitting Enter will cause the next slide to be loaded immediately, ignoring the remaining display time. Clicking your right mouse button or hitting Esc will end the slide show.

Note that the slide show function will skip over animation files.

Catalog

The Graphic Workshop Catalog function will create pictures of your pictures. Tag a number of images and hit F10. One or more files will be generated containing thumbnails of the selected images. These can be very helpful in keeping track of a lot of picture files.

Files created by the catalog function will be named CAT00001, CAT00002, CAT00003 and so on. The catalog function will not overwrite existing files... if the file CAT00001 exists, for example, it will begin with CAT00002.

When you create a catalog you can select one of a number of sizes for the final catalog files, in eight or twenty-four bit colour, with the individual thumbnails set in either portrait or landscape frames. Choosing twenty-four bit colour will create nicer catalog images, but they'll be sort of huge.

If you create eight-bit catalogs you can choose to either remap or dither the thumbnail images. As a rule, remapped images won't represent the colours of your source graphics all that well and dithered images will lose a bit of resolution. Bayer dithering is faster than Floyd-Steinberg dithering, but the latter looks better.

Catalog files can be created with with a three-dimensional appearance or with a flat black background.

If you catalog animation files, such as AVI or FLI/FLC, the image catalogged will be the first frame in the file.

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.

Having drawn a selection rectangle, you can fine tune it with the arrow keys of your keyboard. Hold down the left Shift key and use the arrow keys to move the upper left corner of the rectangle. Hold down the right Shift key and use the arrow keys to move the lower right corner of the rectangle. Use the arrow keys by themselves to move the entire rectangle.

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.

By default, Graphic Workshop tries to use fifteen-bit quantization and falls back to twelve-bit quantization if there's a shortage of memory. Fifteen-bit quantization provides a better final palette, but it may be objectionably time consuming on slower systems. You can force Graphic Workshop to use twelve-bit quantization by default by turning off the Quantize 15 bit switch.

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.

The 240 plus 16 colour palette consists of a 240 colour quantized palette followed by the sixteen-
colour Windows fixed palette. If you select this option, your image will be dithered or remapped to
only the first 240 colours.

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 **PNG** 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 Setup 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 Setup 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. The viewing 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

Graphic Workshop offers a wealth of options to allow you to best configure it to meet your requirements. All its configuration options are stored in the GWS.INI file in your \WINDOWS directory. The ones which you're most likely to find useful can be accessed through the Graphic Workshop Setup dialog. To alter the more obscure ones, open \WINDOWS\GWS.INI with the Windows Notepad application and modify the lines in question. Don't change anything you don't understand. Deleting \WINDOWS\GWS.INI will return Graphic Workshop to its default state. Note that this will delete your registration number as well, requiring that it be re-entered.

You should not have Graphic Workshop when you modify GWS.INI directly with Notepad.

Consult GWS Documentation for a complete list of configurable options. This section will outline the options accessible through the Graphic Workshop Setup dialog.

Auto create thumbnails
Causes Graphic Workshop to create a THN thumbnail file whenever it writes an image file to disk.

Graphic Button Bar
If this item is enabled, the main window of Graphic Workshop will display a button bar with graphic buttons. If it's disabled, the buitton bar will use conventional text buttons.

Check for Photo-CD
Causes Graphic Workshop to look for the standard Kodak Photo-CD files and directories when it logs in a new drive. This must be enabled for thumbnails to work for Photo-CDs.

Centre View Images
Displays images which smaller than the view window centred. If this option is diabled, images will display in the upper left corner.

Colour Buttons
If this item is true, the button controls in Graphic Worshop will display in colour. If it's false, they'll display in grey.

Font (combo box)
This item defines the name of the font to be used to display text in Graphic Workshop. Set this to Default for the old style chunky Windows font.

Compress EXE pictures
Causes DOS EXE pictures to be compressed.

Create GIF 89a files
Causes GIF files written by Graphic Workshop to be stored using the 89a specification. If this is disabled, the 87a specification is used. Make sure this item is enabled if you want to use GIF comment blocks.

Compress IFF/LBM files
Causes IFF and LNM files written by Graphic Workshop to be compressed.

LBM files with PBM packing
Causes 256-colour IFF and LBM files written by Graphic Workshop to use Deluxe Paint PBM packing.

Mac files with Macbinary header
Causes MacPaint files written by Graphic Workshop to have a Macbinary file header.

Create Targa 16 file
Causes Targa files with more than 256 colours to be written using sixteen-bit colour, rather than 24.

Create colour TIFF files
Causes TIFF files to be written as colour TIFFs, rather than as grey scale TIFFs.

Expand grey TIFF files
Causes grey scale TIFF files to have the contrast of their images expanded.

Windows EXE pictures
Causes Graphic Workshop to create Windows EXE pictures when images are written to the EXE format.

Thumbnail Write Mode (combo box)
Tells Graphic Workshop how to generate thumbnails.

File name underbars
Causes Graphic Workshop to create new file names using underbars.

Invert Text Files
If this item is enabled, text files converted to bitmaps will be inverted black for white.

JPEG Quality (spin button)
This value determines how much detail Graphic Workshop can discard when it writes a JPEG file. Set it to 100 to create nearly lossless JPEG files.

Long File Names
If this item is enabled and Graphic Workshop is running under Windows 95, long file names will be supported.

Multiple Image GIF Files
If this item is set to zero, Graphic Workshop assumes that all GIF files contain a single image. If it's set to one, it will troll for multiple images.

Password Protect PNG
If this item is enabled, any function that writes PNG files will prompt you for an encryption password. See the section of GWS Documentation that deals with PNG files for more information about this feature.

Photo-CD read option (combo box)
Defines which resolution and colour model will be used to read Photo-CD images.

PNG Compression (spin button)
This item defines how hard Graphic Workshop will try to compress PNG files. It can range between one and nine. If it's set to one, PNG files written with Graphic Workshop will not be all that well compressed, but they'll write quickly. If it's set to nine, Graphic Workshop will usually manage to create smaller PNG files, but it will take a lot longer to do so. Intermediate settings will represent a tradeoff between these two extremes. Note that this setting will not affect the quality of an image stored in a PNG file -- it only deals with the compression effectiveness and the time it takes to write a PNG file.

Prompt before overwrite
Causes Graphic Workshop to prompt you before it overwrites an existing file.

Prompt before quitting
Causes Graphic Workshop to plead for its life when you try to quit, just like Windows does.

Prompt for destination
Causes Graphic Workshop to prompt you for a new directory to write files to.

Prompt for file name
Causes Graphic Worshop to ask you for a new file name every time it creates a file.

Prompt for filter options
Causes Graphic Workshop to prompt you if you attempt to access a file which requires an external filter if the filter supports an options dialog. If this is not enabled, the filters default values will be used.

Prompt for file comments
Causes Graphic Workshop to ask you for text for a comment block whenever it writes a file in a format that supports comments.

Quit after association
Causes Graphic Workshop to terminate after viewing if it was started with a command line argument.

Read CDR Bitmaps
If this option is enabled, CDR files that contain bitmap images will be displayed as bitmaps rather than thumbnails. If more than one bitmap exists in a CDR file, a dialog will appear to allow you to select the one you're interested in. Thumbnails will be displayed if no bitmaps exists. If this option is disabled, thumbnails will always be displayed.

Read JPG as RGB
Causes JPEG files to be read as 24-bit true colour images.

Relaxed UUE Decoding
If this option is enabled, the UUE decoder will decode any line which checks out as valid UUE data. If it's disabled, it will look for begin and end markers in multiple section UUE files. Having this option enabled will make Graphic Workshop less likely to produce incorrect images from multiple section UUE files.

Show hidden directories
If this item is enabled, hidden directories will appear in the file selection window of Graphic Workshop. If it's disabled, they will be ignored.

Show startup logo
Causes the startup logo to appear while Graphic Workshop wakes itself up.

Start in thumbnail mode
Causes Graphic Workshop to start in thumbnail mode.

TIFF write options (combo box)
This is the current TIFF write option.

Vector read options (combo box)

This is the current resolution and colour depth setting for rasterizing vector files.

View file comments
Causes a dialog to appear with file comments after viewing an image in any format which supports comments, such as GIF and CDR.

Zoom when viewing
Causes the view mode to come up with images zoomed, rather than in normal mode. The Zoom toggle will toggle back to normal mode.

View mode borders
Causes a menu bar and scroll bars to appear in the view mode.

Virtual memory drive (combo box)
This is the drive where large spill files are to be written.

Write file comments
If this item is enabled, Graphic Workshop will include a comment block when it writes file formats that support comments, such as GIF and PNG. Note that file comments will only be written to GIF files if the CreateGIF89 switch is enabled.

Write GIF Internlaced
If this item is set to one, Graphic Workshop will write interlaced GIF files.

Write OS/2 BMP files
Causes BMP files created by Graphic Workshop to be stored for OS/2, rather than for Windows.

In addition, GWS.INI contains one line for each file format Graphic Workshop recognizes, excluding those handled by external filters. These are set by the Formats dialog.

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 CCITT group four 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 PCX 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 / DIB

BMP files are used as "wallpaper" under **Windows 3**. They can be created using the Paint application supplied with Windows. DIB files are identical to BMP files internally, and are used for some programming and multimedia applications.

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 Setup box. This will reduce the file size by about a third, with some loss of colour resolution.

SSTV HRZ

Images in the HRZ format always have 24 bits of colour and the fixed dimensions 256 by 240 pixels. Images with differing dimensions will be padded or cropped to fit in this space when they're translated to HRZ. Images with fewer colours will be promoted to 24 bits. This is a fairly specialized format... if you aren't using slow scan television, you probably don't need it.

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.

The EXE pictures created by Graphic Workshop for Windows can be either DOS or Windows applications. You can define which type of picture to create with the Windows EXE Pictures switch in the Setup dialog.

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.

Windows EXE Multimedia Pictures and the Multimedia Browser
If you have Graphic Workshop create EXE pictures with the Windows EXE Pictures option of the Setup dialog enabled, the resulting EXE files will be stand-alone Windows applications. Click on the icon for one and your picture will appear in a Window. Double click on the system menu to send it away.

Using the Picture Configuration tool provided with the registered version of Graphic Workshop for Windows, you can enable a number of advanced features of the Windows EXE pictures created by Graphic Workshop. These include:

- Have your pictures play wave files, MIDI music or Video for Windows AVI files.
- Maximize your pictures on startup.
- Set the background matt colour of your pictures.
- Set a time delay, after which a picture will terminate automatically.
- Disable the title bars of your pictures.
- Have your pictures terminate if a mouse is clicked.
- Change the About box text of your pictures.
- Chain EXE pictures together to form a slide slow.

Complete instructions for using the advanced features of the Windows EXE pictures can be found in PCONFIG.WRI, included with registered versions of Graphic Workshop.

Registered versions of Graphic Workshop also include Multimedia Browser, an application which will allow you to quickly audition wave, MIDI and Video for Windows AVI files. To use it, simply double click on the file name you wish to hear or view, or select a file and click on Play. Click on the Stop button to terminate playing. You can navigate around on your hard drive just as you would under Graphic Workshop.

Note that you must have the appropriate MCI wave, MIDI and AVI drivers installed in your system to use Multimedia Browser. A sound card is required. Use the Windows Control Panel Drivers applet to install these drivers.

If the MCI wave driver is not installed, Multimedia Browser and Graphic Workshop's EXE pictures will use direct sound commands. This means that wave files will play through the Windows speaker driver if nothing better is present. Again, the speaker driver must have been loaded through the control panel.

DOS EXE Pictures
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.

The EXE pictures will attempt to autodetect the type of super VGA card you have and select a mode accordingly. In a card with both a super VGA BIOS and VESA support, VESA will be used. This assumes 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 it can be written as an ASCII graphic or ... its dimensions and such... can be written to the appropriately named TXT file. Use the Setup dialog to define how this function should behave. There's a more complete discussion of ASCII graphics in the Graphic Workshop documentation.

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.

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.

Note: All colour JPEG files are 24-bit images, having sixteen-million colours. Because many systems can only display 256 colours directly, JPEG files can be read as 256-colour images. This actually means that they'll be dithered when they're read. To have your JPEG files read as 24-bit images, enable the **Read JPEG as RGB** item in the Graphic Workshop <u>Setup</u> dialog. Disable this item to have them read as 256-colour images. The number of colours displayed in the Get Info box will reflect the setting of this switch.

The best way to convert from JPEG to a 256-colour format, such as GIF, is to enable the **Read JPEG as RGB** switch and then use the **Colour Reduction** option of **Effects**, rather than doing a straight conversion.

Graphic Workshop's JPEG functions include portions of the image compression code owned and copyrighted by Pegasus Imaging Corporation, Tampa, FL (813) 875-7575.

BGA Files

The BGA format is used by some OS/2 Warp applications. It can contain multiple images, and is actaully a variation on the OS/2 BMP format. If you attempt to read a BGA file which contains multiple images, a dialog will appear to allow you to select the image you're interested in.

Converting an image to the BGA format will result in a single-image BGA file.

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 real 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 or twelve megabytes at most free to store images in. The higher resolution read options for Photo-CDs require virtual memory, which is configured in the Setup dialog. Virtual memory for huge images can be very, very slow.

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.

Sun raster RAS

Sun raster files are native to the Sun unix environment. They can be uncompressed or run length compressed. There are also a number of obscure compression standards which Graphic Workshop does not support at present. These rarely turn up... the Get Info function will tell you if you've encountered one.

Sun raster files appear with a variety of file extensions. Graphic Workshop uses the extension RAS. You might have to rename your files to use this extension if they're named something else. Extensions for Sun raster files on a unix system can include **.ras**, **.rast**, **.im1**, **.im8**, **.im24** and **.im32**.

Note that some 24-bit Sun raster files were created with their red and blue colour values erroneously interchanged.

CPT files -- Maximum bits: 24

The CPT format is used by Corel PhotoPAINT version five and better. The CPT format can preserve individual "objects" from Corel PhotoPAINT. Note that Graphic Workshop will only read the most recently created object from a CPT file having multiple objects. Prior to using Graphic Workshop to read a CPT file, have Corel PhotoPAINT merge all the objects into the source image.

While you can write images having less than twenty-four bits of colour to the CPT format, it's not advisable to do so. Due to the structure of palette CPT files, some colour degradation may occur. This is not a problem for twenty-four bit images written to the CPT format.

CDR files

Graphic Workshop's use of CDR files is a bit peculiar. You'll save yourself a degree of drustration if you read this section before working with CDR files. Note that there are two distict modes under which Graphic Workshop can read CDR files.

Corel Draw's CDR files are vector graphics, but they contain small preview or thumbnail images which appear in the Corel Draw File Open dialog and in the Mosaic application. Graphic Workshop will read these preview images -- it will not read the actual line art graphics in CDR files. The preview images are very coarse, but they're useful for quickly ascertaining what's in a CDR file.

Alternately, Graphic Workshop can be instructed to search CDR files for bitmap objects. If one or more bitmaps are found, Graphic Workshop will read these as if they were conventional bitmap images. This is handy, for example, should you wish to extract a bitmap from a CDR file with no loss of resolution. If no bitmaps are present, Graphic Workshop will show you the CDR thumbnail preview for the file. If more than one bitmap is present, a dialog will appear to prompt you to choose one of the available images. Note that the preview images in the dialog may be cropped to fit the dialog window.

Turn the **Read CDR Bitmaps** switch in the Setup dialog on to have Graphic Workshop troll CDR files for bitmaps, or off to always have it display thumbnails.

If bitmaps are present in a CDR file, you can convert them to other formats, print them... in short, you can do anything you would do to a normal image file.

If Graphic Workshop only reads a thumbnail image from your CDR files, it will allow you to convert from CDR, but you'll be converting the preview images. This will not be attractive. Should you contact us and ask us why converting from CDR thumbnail images results in a small, coarse graphic that's nowhere near as good as it looks in Corel Draw, our leather winged demon of the night will make a special trip over to visit you and rip out your lungs.

You can convert other formats to CDR with Graphic Workshop. The resulting file will be a version four CDR file with one bitmap object in the center of Corel Draw's workspace when you open the file in Corel Draw. CDR files created by Graphic Workshop are readable with Corel Draw 4.0 and beyond. They will not open in Corel Draw 3.0.

By default, images converted to CDR will appear as if they were sized to print at 150 dots per inch. You can change this by adjusting the value of the CDRSize item in \WINDOWS\ GWS.INI. See Setup for more information.

Note that the CDR format is proprietary to Corel Systems, which has thus far not disclosed its workings. Nor have they undertaken to keep it consistent over future releases of Corel Draw. Graphic Workshop can deal with CDR files from Corel Draw 4.0 and 5.0... it should handle future releases, but pigs should be able to fly, too. Registered users of Graphic Workshop encounter problems with the CDR import and export filters are welcome to get in touch with us for the current state of the circus.

UUE uuencoded Internet graphics

The UUE format isn't a graphic file format at all. Rather, it's a way of encoding binary files, such as graphics, so they can be sent over text-only electronic mail systems, such as Internet e-mail and Usenet newsgroups. The process of uuencoding a graphic turns it into text... albeit fairly mysterious-looking text... which can be mailed. The received uuencoded file would be uudecoded to return it to its former state.

If this means almost nothing to you, you're probably not involved with the Internet, and can safely ignore this section.

Graphic Workshop will read the images from uuencoded text. The file extension for your uuencoded text must be UUE. The text itself can contain multiple sections if you like... Graphic Workshop will attempt to figure out where the breaks are and assemble the original graphic into a correct file.

Graphic Workshop's UUE decoder can work in strict or relaxed mode. This has to do with how it works with UUE files having multiple sections.

In strict mode, the standard begin <mode> <filename>   fields must precede the first uuencoded block in your source text file. Each subsequent section for multiple section uuencoded files must start with a BEGIN line of some sort and end with an END line. A uuencoded graphic that appears as multiple sections must have all the sections concatenated into a single UUE file. Note that Graphic Workshop does very little validity checking for uuencoded data... damaged source data, sections out of sequence or incorrectly formed uuencoded headers or trailers may cause Graphic Workshop's uudecoder to create an incorrect final binary file, and hence a mangled graphic.

In relaxed mode, Graphic Workshop wll decode any line which checks out as valid uuencoded data, ignoring all the BEGIN and END markers save for the first one. If it doesn't find the END marker of the current file being decoded, it will prompt you for the next file in the current sequence.

The strict mode guarentees you a correct decode if you UUE files have the currect section markers, but not all uuencoded data has these. The relaxed mode can usually handle files without headers properly, but some pathological cases will crop up in which spurious data is decoded. The strict mode does not prompt for multiple sections of a UUE file.

The UUE decoder mode can be set using the Relaxed UUE Decoding item in the Graphic Workshop Setup dialog. If you encounter a UUE file that doesn't display properly, try toggling this switch. In most cases you'll want to leave it in relaxed mode.

Keep in mind when you're using the uudecoder in Graphic Workshop that whereas human beings can easily distinguish between the header and other flotsam which often appears before and after uuencoded graphics in e-mail, software is much less adept at this sort of thing. If you encounter uuencoded files that won't read, look at them with a text editor to see if there's something obviously peculiar about them. Should one of your images appear incomplete or obviously damaged, your UUE source file probably hasn't been created to the above specification... and perhaps the relaxed mode of the decoder can't quite figure out what's happening to it. In this case, you'll have to open it with a text editor and do a bit of hand massaginging between the section breaks. Specifically, just delete all the intermediate text and leave the uuencoded data as one long block.

If you use a news reader that will append multiple messages to the same file, you should be

able to create suitable source UUE files for Graphic Workshop to read with no difficulty.

Note that when it decodes a UUE file, Graphic Workshop will ascertain the file type for the internal file name stored in the begin   header of the first section, but it will form the body of the destination file name for translation or other processes from the body of the UUE file name.

You can treat UUE files like any other graphic file format so long as they contain graphics in a format that Graphic Workshop recognizes. For example, you can convert from UUE to a conventional bitmap format.

About multiple section UUE files: If you download uuencoded files from newsgroups, you'll probably encounter some postings with section numbers, witten as [1/3], [2/3], [3/3] and so on. This designation indicates that the original uuencoded graphic was too large to fit in a single Usenet posting,   and has been split up among several consecutive postings. To view these files with Graphic Workshop, you can do one of several things:

1. Make sure you have the Relaxed UUE Decoding switch turned on. Double click on the first file in the sequence you downloaded. If this is not a complete uuencoded graphic -- that is, if it doesn't end with an END marker -- Graphic Workshop will prompt you to select the next file in the sequence. When the Next File dialog appears, double-click on the name of the next file. Click on OK if you think all the sections have been read or click on Cancel to abort reading the current file. You'll be prompted once for each section of the file, until a file with an END marker is read. Note that it's your responsibility to select the correct UUE file sections and to select them in the correct order.

2. Alternately, use a text editor to inhale each section into a single larger text file. Be careful not to change any of the uuencoded data.

3. You can concatenate files at a DOS prompt using an obscure variation on the DOS COPY command. Here's how it works:

COPY SECTION1.UUE+SECTION2.UUE+SECCTION3.UUE PICTURE.UUE

In this example, SECTION1.UUE, SECTION2.UUE and SECCTION3.UUE are the partial uuencoded graphics downloaded from Usenet and PICTURE.UUE is the complete graphic, ready for Graphic Workshop to view. You can have as many sections as you like on a command line like this.

In most cases you'll want to use the first appraoch discussed here.

ICO Files - Maximum bits: 4

ICO files are used to contain Windows icons. They're very small bitmaps. If you convert a larger bitmap to ICO, only the upper left corner of the source image will appear in your icon. Investigate the Graphic Workshop Scale and Crop modes if you're creating icons. You might also have recourse to the Effects Colour Reduction function if your source images have more than sixteen colours.⌫

ICO files consist of a bitmap and a tranparency mask. When you view an ICO file with Graphic Workshop, the transparent colours will be replaced with a solid colour... by default it will be grey. You can change this colour by opeing \WINDOWS\GWS.INI with the Windows Notepad application and changing the value of the IconTransparentColour item.

Graphic Workshop will read icons of any size and colour depth recognized by Microsoft Windows. It will only write 32 by 32 pixel, sixteen-colour icons.

FITS Files

The FITS format is used to store images from telescopes and other astronomical sources. Graphic Workshop supports a subset of FITS. Specifically, it will only handle images with two axis correctly. FITS files can contain more than eight bits of grey scale information, but as no PC display hardware exists that can display it, images with higher resolution will be reduced to eight bits of grey for display and conversion.

It won't take you much work to find FITS files that Graphic Workshop will not display. FITS files are often used to contain images which aren't simple two-dimensional flat graphics.

If you do encounter a FITS file which Graphic Workshop will not display, or will not display correctly, but which you think contains a simple two-axis image, please send us a copy of it. We're still fine tuning the FITS reader.

If you write an image to a FITS file, it will be stored as an eight-bit grey scale picture.

Apple QuickTime MOV Files

QuickTime movies are a tragic tale, and Graphic Workshop's involvement with them will prove very cursory. It will play MOV files, but it will not convert to or from MOV, a situation that's not likely to change in the foreseeable future.

Without getting into all the hoary details of our breif flirtation with Apple, adding complete QuickTime support proved to be probitively expensive. As we weren't prepared to raise the price of Graphic Workshop to deal with what is in reality a pretty obscure animation format, we decided to forgo this feature.

We have included hooks in Graphic Workshop which will allow it to play QuickTime movies if you have the QuickTime MCI drivers installed in your system. If you do not have these drivers installed, attempting to play a QuickTime movie will generate an error message.

Now, here's the really weird bit. As per our reading of Apple's license agreement, we are not allowed to distribute the MCI drivers with Graphic Workshop, even through the version 1.1 QuickTime software is freely available on most bulletin boards and on CompuServe. This includes our bulletin board and our Internet FTP site as of this writing. The file you want is called QTW11.ZIP. Download it, follow the instructions in its README.TXT file and you'll have a complete set of QuickTime drivers installed in your system. Graphic Workshop will subsequently be able to play MOV files.

QuickTime for Windows 2.0 is available on CompuServe at GO QTW-1. It costs $9.99 to download as of this writing. It's supposed to be better than the free 1.1 drivers, although we haven't tried it as yet. The free drivers appear to work fine, save that they leak a bit of memory.

We regret the inconvenience this situation may cause users of Graphic Workshop... the whole ordeal has left us pretty confused. We felt that some QuickTime support would be better than none at all, especially for Graphic Workshop users who require the software primarily for viewing files.

PNG Files - Maximum bits: 24

The PNG, or Portable Network Graphics, format was created as a successor to GIF. It features lossless compterssion for images with up to twenty-four bits of colour, and most of the other features of GIF. In most cases it will provide at least slightly letter compression than GIF.

PNG files can be interlaced or non-interlaced. This won't affect how PNG images look in Graphic Workshop, but interlaced PNG files will cause Graphic Workshop to pause momentarily before its status bar begins to indicate that something's happening.

MPG Files

Graphic Workshop will display MPEG animations. At present, that's all it will do with them. MPEG data streams are fairly complex and processor-intensive to decode -- you must have a 32-bit implementation of Windows available to use the MPEG viewing facility of Graphic Workshop This means that you'll need Windows 95, Windows NT or WIN32 installed under Windows 3.1.

NOTE: If you attempt to view an MPEG file without 32-bit Windows, you will see the following message:

Cannot access the file at this time.

Make sure the file is not in use by another program, and is a valid program file.

Future releases of Workshop are scheduled to have more complete MPEG support, including conversion to and from MPEG, sound support and a wider variety of viewing options. We welcome your feedback about Graphic Workshop's MPEG functions.

DLL and VBX files - Maximum bits: 24

You'll probably find a lot of files about your hard drive with the extensions DLL and VBX. These are not actually graphics per se -- they're dynamic link libraries used by Windows and its applications. They often contain small graphic images, however. For example, many of the bitmap buttons that appear in the dialogs of Graphic Workshop are contained in the file BWCC.DLL.

Graphic Workshop will let you go trolling for graphics in Windows' DLL files. Because it can only read DLL and VBX files, and not write them, you can't damage anything by doing this. Many DLL and VBX files will prove not to contain any graphics -- you'll see a "No bitmap in this file" error if you try to read them.

Note that Graphic Workshop can't read OS/2 DLLs, and there are some peculiar Windows DLLs it won't handle either. If you encounter an error message when you attempt to view a DLL or VBX, try a different file.

To extract graphics from a DLL or VBX file, convert from it to a more common format, like PNG or BMP. A selector window will appear to let you select the graphics to be converted.

XBM Files - Maximum bits: 2

The XBM format is used to store small bitmaps -- it's actually a C-language definition of a bitmap. XBM files are associated with UNIX systems, wherein they often store icons.

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 Canada and at 1-905-936-9500 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 1-905-936-9503. 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.

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, please 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, the GWS Camera screen capture application, the Multimedia Browser application 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 **1-905-936-9502**.

You can register Graphic Workshop for Windows on CompuServe by typing **GO SWREG**. As of this writing, the shareware registration code for Graphic Workshop for Windows is 1403.

If you have previously registered Graphic Workshop for Windows you can **update** your copy for $20 plus $5.00 shipping.

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 snail mail.

Canadian users
The registration fee for Graphic Workshop is $40.00 (CDN) plus seven percent GST, plus $5.00 shipping, or $47.80. 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) plus $5.00 shipping.
Other users
The registration fee for Graphic Workshop is $40.00 (US) plus $5.00 shipping. 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 **American Express**, **Mastercard** and   **Visa** only. We need your card 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 other credit cards. We are not able to ship registered copies of software prior to receiving payment for them. We cannot accept **purchase orders**.

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.

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Manaccom Pty Limited, 3/9 Camford Street, Milton, Queensland 4064, Australia, Telephone (61)-7-368-2366, FAX (61)-7-369-7589

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Britain
The Public Domain & Shareware Library Ltd., Winscombe House, Beacon Road, Crowborough, Sussex, TN6 1UL, England, telephone 0892 663298, FAX 0892 667473, BBS 0892 661149.

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Switzerland
PEARL AGENCY Schweiz, Großmattstr. 16, CH-8964 Rudolfstein, Tel 05731 70 20, Fax 05731 70 30.

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 <u>Thumbnail Search</u> 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.

You can search for partial matches of keywords if you enable the Partial Matches option in the Search dialog. Thus, for example, you could find all the wombats by searching for WOM or BAT. This option can be used in conjunction with the And and Or functions.

Use Thumbnails

The Use Thumbnails item of the Thumbnails menu and the Use Thumbnails button 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 and by clicking on the Change Directory button. 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.

Animation and Multiple Image Formats

Some graphic file formats, such as FLI and AVI, are actually animation sequences... that is, each file contains multiple frames or images. Some conventional still graphic file formats can contain multiple images as well.

If you attempt to view or process a file with multiple images in it, the Select Image dialog will appear to prompt you for the image to unpack from your file. The selected image will subsequently behave as if it had come from a conventional single-image format.

The Select Image dialog will allow you to view the entire animation for those formats which contain animated sequences. Click on View to do so.

If you use the View function with an AVI file, the animation wll be handled through the Windows MCI interface. You must have the Video for Windows MCI drivers installed for this to work. If AVI files refuse to display, check your Windows Control Panel to make sure the appropriate drivers are installed. Note that most AVI files contain sound tracks as well. You must have a sound card and the MCI sound drivers installed to hear them.

Other animation formats, such as FLI, are displayed using Graphic Workshop's internal animation drivers. Written to be memory-efficient rather than particularly fast, Graphic Workshop's internal animation drivers will run on machines having very little memory but they will slow down noticeably if you attempt to view animation on systems with slower processors, or if you attempt to view animated images with a lot of detail in them. Them's the breaks... Windows is a less than ideal environment for animation.

Graphic Workshop may not correctly display non-MCI animation sequences which contain palette changes part way through the sequence.

FLI Animation

The FLI and FLC formats are a DOS-based animation protocol developed by AutoDesk. All FLI files are constrained to have the dimensions 320 by 200 with eight bits of colour, and most FLC files do as well. At present the FLI and FLC formats do not support sound.

The FLI and FLC formats use simple run length compression. Note that complex frames which don't compress well can result in really huge FLI or FLC files. The raw data for a 100-frame FLI file would require over six megabytes of storage.

WMF Windows Metafiles

The WMF format contains vector graphics. Graphic Workshop will rasterize WMF files into bitmaps. You can set the colour depth and approximate image dimensions of the rasterized bitmaps this feature will create using the Vector Read Options control of the Setup dialog.

Graphic Workshop will not write to the WMF format.

When you read a WMF file with Graphic Workshop, the result will be a bitmap. Unless your source WMF file was black and white, the image will probably be dithered. While you can use all the functions of Graphic Workshop with WMF files, scaling, dithering and colour-reducing them may result in noticeable aberations in your destination images.

Formats

The Supported Formats dialog will allow you to disable any of the file formats Graphic Workshop supports. Files in disabled formats will not appear in the main file selector of Graphic Workshop.

Enabled formats are shown in the Supported Formats dialog with a cross to the left of their entries. Click on any format entry to toggle it from enabled to disabled.

Moving and Copying Files

The Move and Copy Files function will copy files to another drive or directory, optionally deleting the source files when it's done. Specifically, Copy will copy files and leave the source files in place. Move will copy files and then delete the source files. In the latter case you'll be prompted to allow it to do so. The Move and Copy Files function includes optional verification of the copied files, using a 32-bit CRC check. This reduces the likelihood of incorrectly copied files to something less than the odds of winning a state-run lottery.