WinJPEG Index

Commands

Reference Information

File Menu

The File menu includes commands that enable you to open and save files, to batch convert files to JPEG, and to display multiple images in a selected order.

For more information, select the File menu command name.

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Save
Save As
Save All Options
Delete
Batch Conversion
Slideshow
Print
Print Setup
Print Options
1, 2, 3, 4
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Exit

Edit Menu

The Edit menu includes commands that enable you to transfer images to and from the clipboard, to change the color components of an image, and to manipulate the image.

For more information, select the Edit menu command name.

View Menu

The View menu includes commands that let you view an image with its full palette, in full screen mode, or with different scales without changing the image data.

For more information, select the View menu command name.

Capture Menu

The Capture menu includes commands that let you capture the entire screen, a part of the screen, a window, or a part of a window.

For more information, select the Capture menu command name.

Window
Client Area
Desktop
Area of Desktop
Hide Window

Filters Menu

After a color image is filtered by WinJPEG, the color depth of the image is maintained. Consequently, if the color image is not 24-bit, the dithering that is used to maintain the color depth may degrade the accuracy of the filtered pixels. If accuracy is important in your application, you should convert the color image to 24-bit with the Increase Color Depth menu command before you use any of the filters. 8-bit grayscale images do not need to be converted to 24-bit.

For information about a filter, select a filter.

Sharpen
Smooth
Laplacian
Point Detection
Line Detection
Edge Detection
Median
Custom

Sharpen Filter (Filters Menu)

Increases the local contrast in the displayed image.

Smooth Filter (Filters Menu)

Blurs the edges and small detail in the displayed image.

Laplacian Filter (Filters Menu)

The Laplacian filter is a second order derivative that enhances the edges in an image. Other edge detectors like the Sobel operators are preferred because the Laplacian is sensitive to noise. The Laplacian is usually used to determine whether a pixel is on the light or dark side of an edge.

Point Detection Filter (Filters Menu)

The point detection filter is used for detecting isolated pixels in the displayed image.

Line Detection Filter (Filters Menu)

The line detection filters are used for detecting horizontal, vertical, 45 degree, or -45 degree lines that are one pixel wide.

Edge Detection Filter (Filters Menu)

The edge detection filters are gradient operators that are used to detect edges in an image. The Roberts operators are based on a simple approximation of the gradient and generally produce poorer results than the Prewitt and Sobel operators.

Median Filter (Filters Menu)

The median filter is a smoothing filter that is used to reduce noise in an image. The filter replaces each pixel in the image with the median value, the 5th largest value in the pixel's 3x3 neighborhood.

Custom Filter (Filters Menu)

The custom filter lets you define your own 3x3 filter. For each pixel in the image, the new pixel value is calculated in the following way. The 3x3 filter is centered "on top of" a pixel in the image, and the filter weights are multiplied with the corresponding pixels "under" the weights. The sum of those products is then divided by the Scale, and the Offset is added to the result.

Options Menu

The Options menu includes commands that let you determine how other commands operate. The settings for the options can be saved with the Save All Options command.

For more information, select the Options menu command name.

Maximum Color Depth
Auto-Preview
Suppress Warnings
Disable Undo
Window Options
JPEG Options
Memory Options
Slideshow Options

Open command (File Menu)

Select the name of a file to display. The file formats that are supported are BMP (Windows or OS/2), GIF 87a/89a, IFF, JPEG File Interchange Format (JFIF), PCX, PPM, Targa, and TIFF. To cancel an open while it is in progress, press the ESC key or use the File Cancel menu item.

The **Info** button is used to display a selected file's file attributes such as the file size and the time it is created. Also, it is used to identify the file format and display information about the image such as its resolution, color depth, and other data.

Pressing the **Preview** button will quickly display a grayscale thumbnail of a selected JPEG image.

Save command (File Menu)

Save the displayed image with the same filename and the same file format as the opened file. If the file format is not supported in the save feature, the save dialog will appear and it will let you choose a supported format. To cancel a save while it is in progress, press the ESC key or use the File Cancel menu item.

Save As command (File Menu)

Select the name of the output file and the output format, which is BMP (Windows or OS/2), GIF 87a, IFF, JPEG File Interchange Format (JFIF), PCX, PPM, uncompressed Targa, or TIFF. The **Sub-format** button can be used to invoke a dialog that lets you set the options of the BMP, IFF, JFIF, or TIFF format. To cancel a save while it is in progress, press the ESC key or use the File Cancel menu item.

Save All Options command (File Menu)

This will save all the WinJPEG options to a file named "winjpeg.sav" in the same directory as the WinJPEG executable. When WinJPEG is initially loaded, the options will be loaded if "winjpeg.sav" exists.

Delete command (File Menu)

This menu command lets you delete the file containing the currently displayed image. WinJPEG will prompt you for confirmation before deleting the file. To delete an image during a slideshow, press the Delete key.

Batch Conversion command (File Menu)

Batch conversion converts selected file(s) to a specified file format. If you are converting to the BMP, IFF, JPEG FIF, or TIFF format, the options of that format can be set by pressing the **Sub-format** button and changing the settings in the Options dialog box.

To choose a list of files to convert, you must select the desired files by clicking on them and add them to the selected files-list by pressing the **Add** button. The **Select All** and **Unselect All** buttons let you quickly select and unselect, respectively, all of the files in the files-list box. To remove files from the selected files-list, select the files you want removed and press the **Remove** button.

To cancel the conversion of a single file while it is in progress, press the ESC key or use the File Cancel menu item. To abort the batch conversion completely, press CTRL+F4 or use the Cancel Batch Conversion menu item.

The output files will have the same name as the input files except that they will have the extension that is shown in the output file format list. Also, the output files will be placed in the same directory path in which the input files were located.

If the compression type is not valid for the input image(e.g. converting a non-bilevel image to TIFF with CCITT Group 3 compression), the output image will not be compressed.

Slideshow command (File Menu)

To select BMP, GIF, IFF, JPEG, PCX, PPM, Targa, or TIFF files to display in a slideshow, select the desired files in the Files list box and press the Add button. The order in which you add the selected files to your slideshow list determine the order in which they are displayed if the Slide Order is set to Forward or Reverse in the Slideshow Options dialog box. Files can be removed from the slideshow list by selecting files in the selected files-list and pressing the **Remove** button.

To advance to the next file while WinJPEG is pausing, click on the window with the right mouse button. To cancel an open while it is in progress, press the ESC key or use the File Cancel menu item. To abort the entire slideshow, press CTRL+F4 or use the Cancel Slideshow menu item.

See also Slideshow Options.

Print command (File Menu)

Print the image currently displayed. The **Print** dialog box lets you specify the **Print Quality** and the number of **Copies** to print. The Print Setup dialog can be accessed before printing.

Print Setup command (File Menu)

The **Print Setup** dialog box lets you select the **Printer**, page **Orientation**, and **Paper** options. The **Options** dialog box allows printer driver-dependent options to be changed.

Print Options command (File Menu)

The displayed image can be printed in three ways: 1) best fit for the page, 2) fit for the full page, or 3) scaled by a user-selected factor. **Best Fit** scales the image for maximum fit on a printed page while maintaining the image's aspect ratio. **Fit for Full Page** scales the image such that it fits the entire page. The **Scale** option scales the printed image's width or height by an integer factor that is selected by the user.

1, 2, 3, 4 commands (File Menu)

The four most recently used file paths and their respective file types for viewing an image. If you select one of these menu items, the open dialog will be displayed with a list of files limited to the selected file type in the corresponding file path.

5, 6, 7, 8 commands (File Menu)

The four most recently opened images. Choosing one of these menu-items re-opens the selected file.

Exit command (File Menu)

Exit from WinJPEG. While WinJPEG is compressing/decompressing an image, you can exit by using the Close command in the system menu.

Undo command (Edit Menu)

Reverses the last change made to an image. If your system is low on memory, you can turn off the undo feature with the Disable Undo option.

Redo command (Edit Menu)

Restores the last change that was "undo'ed."

Copy command (Edit Menu)

If a region of the image is selected (see Selecting a Region to Copy, Crop, or Zoom), copy that region into the clipboard. Otherwise, copy the entire image into the clipboard. WinJPEG posts the image in Windows bitmap and Device-Independent Bitmap(DIB) formats.

Paste command (Edit Menu)

Paste an image from the clipboard. The clipboard must contain either a Windows bitmap or a Device-Independent Bitmap(DIB).

HSV Adjustment command (Edit Menu)

Use the scroll bars to adjust the amount of hue, saturation, and value/brightness in an image. A value of 0 on the scroll bar means that there is no change in the corresponding color component. When the value is increased or decreased, the color component is increased or decreased, respectively.

Color Balance command (Edit Menu)

Use the scroll bars to adjust the amount of red, green, and blue in an image. A value of 0 on the scroll bar means that there is no change in the corresponding color component. When the value is increased or decreased, the color component is increased or decreased, respectively.

Contrast Enhancement command (Edit Menu)

Use the scroll bar to adjust the amount of contrast in an image. A value of 0 on the scroll bar means that there is no change in the contrast. When the value is increased or decreased, the contrast is increased or decreased, respectively.

Gamma Correction command (Edit Menu)

Use the scroll bar to adjust the amount of gamma. A value of 1.0 on the scroll bar means that there is no change in the image. In general, increasing the gamma makes the image lighter and decreasing it makes the image darker. A gamma of 2.2 is a commonly used value.

Grayscale command (Edit Menu)

Convert a color image into a grayscale one.

Negative command (Edit Menu)

Obtain the negative of the image.

Bit Slicing command (Edit Menu)

Bit slicing is used to isolate a range of intensity values in a grayscale image or in a particular color component of an image. Usually, pixels in the range of interest are set to 255(white), and the remaining pixels are set to 0(black). The new intensity values can be adjusted by typing the values in the appropriate edit boxes. The upper and lower boundaries of the range of interest can be set with the scroll bars.

For color images, you can bit slice a combination of the red, green, or blue color components by checking the desired components in the **Apply to** group box.

The **Preview** button updates the image with the current bit slicing settings.

Color Reduction command (Edit Menu)

This dialog lets you reduce the number of colors in the displayed image to a specified number of colors. There are buttons that let you choose a common color depth(**1-bit**, **4-bit**, **8-bit**, **15-bit**, and **16-bit**) that corresponds to the number of colors in the right column. You can also choose a custom number of colors in the new image.

If the specified number of colors is 256 colors or less, you can pick the palette of the color-reduced image. If you choose the **Optimal Palette**, WinJPEG will determine the best set of colors for the new palette. If you choose the **Windows' System Palette**, WinJPEG will use the system colors, and it will include the optimal set of colors if there is space in the new palette for the optimal colors. If you choose the **Palette in the Clipboard**, WinJPEG uses the first X colors of the palette in the clipboard, where X is the new number of colors. If the new color depth is **1-bit**, you can select a **Black and White Palette**.

Increase Color Depth command (Edit Menu)

Increases the color depth of the displayed image to 24 bits per pixel. This command is useful for preparing the image for the image processing functions like filtering. Processing the image in 24 bits per pixel preserves the accuracy of the pixel data.

Rotate command (Edit Menu)

Rotate the image clockwise by 90 degrees.

Flip Horizontal command (Edit Menu)

Flip the image around the vertical axis.

Flip Vertical command (Edit Menu)

Flip the image around the horizontal axis.

Resize command (Edit Menu)

Change the spatial resolution of the displayed image. Common sizes such as **640x680**, **800x600**, **1024x768**, and **1280x1024** can be easily selected. The **Maximize Fit on Desktop** option will resize the image into the largest possible window that will fit on the desktop while keeping the aspect ratio, the ratio between the original width and height. Also, a custom size can be manually entered. If **Keep Aspect Ratio** is enabled, only one dimension needs to be entered because the other one is automatically changed to maintain the aspect ratio.

Crop command (Edit Menu)

If a region of the image is selected (see Selecting a Region to Copy, Crop or Zoom), keep that region and discard the image outside of the selected region. If the image is stretched or zoomed, the region corresponding to the pixels of the normal-sized image becomes the new image.

Crop Stretched/Zoomed Image command (Edit Menu)

If a region of the stretched image is selected (see Selecting a Region to Copy, Crop or Zoom), keep that region and discard the image outside of the selected region.

Window command (Capture Menu)

After selecting this menu item, the WinJPEG window hides itself and you must select a window to capture by moving the mouse pointer over the desired window and clicking on the window with the left mouse button. Some examples of a capturable window are a window frame, a tool bar, an icon, etc.

Client Area command (Capture Menu)

After selecting this menu item, the WinJPEG window hides itself and you must select a client area of a window to capture by moving the mouse pointer over the desired window and clicking on the window with the left mouse button. The client area does not include the window frame or menu bar.

Desktop command (Capture Menu)

Capture the entire desktop. See also the Hide Window option.

Desktop Area command (Capture Menu)

After selecting this menu item, you must select an area of the desktop to capture. To select a region of the desktop, click on the desktop with the left mouse button. While holding down that button, move your mouse until the rectangle surrounds the desired region, and then release the mouse button. The dimensions of the selected region are displayed in the center of the indicated region. See also the Hide Window option.

Hide Window command (Capture Menu)

When this option is checked, the WinJPEG window hides itself before capturing the desktop with the Desktop or Area of Desktop command.

Full Palette command (View Menu)

Windows normally reserves 19 system colors for painting display elements like the background color, window frame color, etc. If this option is checked and you are using a 256-color display mode, these colors are no longer reserved by the system and the image is displayed with the image's full palette of colors. However, the system colors will look incorrect until you turn this option off or exit WinJPEG.

If the option is off, Windows attempts to match system colors to colors in the image's palette before reserving the colors it needs. In other words, if it can't find the system colors in the image's palette, it will replace image palette entries with system colors. Up to 19 colors in the image could be replaced by the system colors.

The Full Palette option is available in 256-color mode only.

Stretch Image to Fit Window command (View Menu)

When this option is checked, the scroll bars for the WinJPEG window are turned off and the image is stretched to the dimensions of the client area of the WinJPEG window. This option does not permanently change the resolution of the image. If you save the image, the original image is saved, not the stretched one.

Keep Aspect Ratio if Stretched command (View Menu)

When this option is checked along with Stretch Image to Fit Window, the image is stretched while maintaining the image's aspect ratio.

Full Screen command (View Menu)

View the currently displayed image with the full screen. If the image is larger than the entire screen, the image will be resized with the best proportional fit before it is displayed. If the image is smaller, it will be displayed in the center of the screen. To exit from full screen mode, press any key or click on the screen with the left mouse button.

Zoom In/Fixed Scale command (View Menu)

View the currently displayed image enlarged by a factor specified by one of the fixed zoom ratios.

Zoom In/Selected Scale command (View Menu)

View the currently displayed image enlarged by a user-selected zoom ratio or by a user-selected percentage.

Zoom Out/Fixed Scale command (View Menu)

View the currently displayed image reduced by a factor specified by one of the fixed zoom ratios.

Zoom Out/Selected Scale command (View Menu)

View the currently displayed image reduced by a user-selected zoom ratio or by a user-selected percentage.

Zoom In/Out Region command (View Menu)

If a region of the image is selected (see "Selecting a Region to Copy, Crop, or Zoom"), scale the image so that the region of interest is fully displayed in the WinJPEG window.

Exit Zoom Mode command (View Menu)

View the zoomed image at its normal size.

Maximum Color Depth command (Options Menu)

When you load or paste an image that has more colors than the Maximum Color Depth setting, WinJPEG will reduce the number of colors to the Maximum Color Depth setting before displaying the image. If you are viewing images, you should set this option to the number of colors supported by your display driver. If you are converting images from one file format to another, you should set it to 16.7 million colors.

Auto-Preview command (Options Menu)

If this option is checked, WinJPEG automatically displays a grayscale thumbnail of a JPEG image when the user selects a JPEG file in the "File Open" dialog.

Suppress Warnings command (Options Menu)

If this option is checked, WinJPEG suppresses all warnings. Warnings occur when you load a corrupted image, discard an image that has changed, or save an image that has lost data because of quantization or dithering.

Disable Undo command (Options Menu)

If this option is checked, you will not be able to undo any changes to an image. Use this option if your system is low on memory or if you don't need to undo changes to an image.

Windows Options command (Options Menu)

The **Window Z-Order** options determine the relative level of the WinJPEG window to other windows on the desktop, immediately after an image is loaded. The level is not changed if **Keep Current Order** is set. If the **Below All Windows** option is set, the WinJPEG window will place itself under any window that overlaps it. If the **Above All Windows** choice is selected, the WinJPEG window will placed itself on top of any window that overlaps it.

Whenever an image is loaded or resized, the **Automatically Resize** option will cause the WinJPEG window to resize itself to fit the displayed image. If the image is larger than the desktop, the window size is chosen such that it fits on the desktop, and the scroll bar(s) are enabled to let you view the portion of the image that doesn't fit on the desktop.

If the **Keep Current Size** option is enabled, the window size does not change after an image is loaded or resized. If the **Show Scroll Bar(s)** option is checked, the scroll bars(s) are enabled if they are needed.

The last two options, **Restore Window if Minimized** and **Move Window to Upper-Left Corner of Desktop**, are effective after an image is loaded and they are self-explanatory.

JPEG Options command (Options Menu)

The **Quantization** options are applied when **Maximum Color Depth** is set to 8-bits per pixel or less. **2-pass** quantization(specifically, Heckbert) calculates the optimal colormap for the quantized image and produces better looking output than **1-pass** quantization. **1-pass** quantization is slightly faster because a fixed colormap is used.

Dithering is the process of rendering an image on a display that supports less than the number of colors in the image. **Floyd-Steinberg Dithering**, an error diffusion method, should be turned on when your display is not truecolor(24-bit) and when **Maximum Color Depth** is set to the number of colors supported by your display driver.

The **Quality Factor**, an integer between 0 and 100 inclusive, determines the tradeoff between the output file size and the output image quality. If you choose a high quality factor, the image quality will be high but the file size will be large. A lower quality setting will yield a smaller file at a cost of lower fidelity. Since the JPEG algorithm is lossy, a quality factor of 100 will not give you a losslessly compressed image.

The **Smoothing Factor**, also an integer between 0 and 100 inclusive, determines the degree of smoothing to apply to an image before compressing that image with JPEG. The higher you set the factor, the higher the degree of smoothing that is applied. A smoothing factor of 0 means that no smoothing is performed. Smoothing removes noise introduced when an image is dithered, and, in turn, smoothing produces a smaller JPEG file. It should be used for only dithered images, like photographic GIF pictures. Generally, a factor between 10 and 50 removes the dithering noise from an image.

Entropy Optimization produces a smaller JPEG file but it takes more time to encode the image.

Memory Options command (Options Menu)

When WinJPEG needs more memory, it can use virtual memory, selected by the **Available Memory** button, or it can use temporary files, selected by the **Temporary File** button. If the former option is selected and WinJPEG runs out of virtual memory, temporary files will automatically be used.

Temporary files are created in the directory chosen by the user and they are deleted when WinJPEG is done with the memory or when the user aborts decompression/compression of an image by closing the program.

In general, the **Available Memory** should be selected when your system has at least 8 MB of RAM, and the **Temporary File** should be selected when you have little RAM or you are multitasking memory-intensive programs.

Slideshow Options command (Options Menu)

The **Slide Order** determines the order in which the images in a slideshow list is displayed. If **Forward** order is selected, the images are displayed in the order in which they are listed in the slideshow dialog box. If **Reverse** order is chosen, the images are displayed in reverse order from the last file to the first one in the slideshow list. If **Random** order is selected, the files are displayed in a random order.

The **Slide Advancement** options determine how to advance to the next image in a slideshow. In **Manual** mode, WinJPEG will wait until you click with the right mouse button before advancing to the next picture. In **Automatic** mode, there will be a user-selected time delay before the next picture is loaded. To advance to the next picture before the delay has elapsed, click on the window with the right mouse button. The **Delay** can be set to a value between 0 and 60 seconds.

The **Buffer Image Formats** options allow buffering of selected image formats during a cyclic slideshow. If a type is selected, all images of that type are stored in memory after they are loaded and decompressed, and they will not be loaded/decompressed the next time they are displayed. This feature must be used in conjunction with the **Cycle Slideshow** option. Buffering images can use a lot of memory; if you don't have much physical memory, be certain that there is enough disk space on Window's swap drive to handle this memory usage.

When a slideshow is running, the **Cycle Slideshow** option determines whether or not a list of images are continuously displayed in a cycle. If this option is on, the slideshow returns back to the first picture after the last one is displayed and continues to display all the images in a selected list until you abort the slideshow.

The **Full Screen** option lets you display the images in the slideshow with the full screen as described in the Full Screen section.

JPEG

Joint Photographic Experts Group (JPEG) refers to a still-picture compression standard that specifies several modes of operation. The mode used by the Independent JPEG Group's(IJPEG) software, which is incorporated into WinJPEG, is sequential buildup; in this mode, each component of an image is encoded in a left-to-right and top-to-bottom scan. Sequential mode is lossy, which means that when you compress an image, you will lose information. That is, when you decode the compressed image, the decoded image will not exactly match the original. One reason that sequential mode JPEG is lossy is that the algorithm compresses an image by removing visually insignificant information, colors that the human eye cannot detect.

Image File Formats

For more information, select an image file format.

JPEG File Formats

The JPEG committee has not specified a standard file format, and consequently, many applications of the JPEG algorithm use their own proprietary format. WinJPEG uses the JPEG File Interchange Format(JFIF) which transports only pixel information. JFIF is supported by the IJPEG Group's software and other programs based on their code.

Handmade Software's GIF2JPG and Image Alchemy by default use a proprietary JPEG format that is not compatible with the JFIF standard. This proprietary format is not supported by WinJPEG. When you use GIF2JPG, remember to use the "-j" option to produce a JPEG file that is compatible with the JFIF standard and viewable with WinJPEG.

However, the GIF2JPG's "-j" option doesn't always produce a file in JFIF. If you have to use a DOS converter, we recommend that you use the IJPEG Group's cjpeg program. Otherwise, you should use WinJPEG's Batch Conversion feature, which performs the same task as cjpeg except that only GIF, PPM, TIFF, and Targa images are supported.

Tagged Image File Format (TIFF)

WinJPEG supports a subset of the TIFF 6.0 specification. WinJPEG can view TIFF files stored with 1, 4, 8, or 24 bits per pixel. WinJPEG can read TIFF images stored in strip format, in which the image is divided into horizontal strips of pixels, and tile format, in which an image is divided into rectangular grids of pixels. The compression modes CCITT (RLE, RLEW, FAX3, FAX4), LZW, and Packbits can be read as well as uncompressed TIFF images.

WinJPEG can save uncompressed or compressed (Packbits, CCITT-FAX3, or LZW) TIFF files TIFF files with 1, 4, 8, or 24 bits per pixel. TIFF files are saved in strip format.

Graphics Interchange Format (GIF)

WinJPEG can view interlaced/non-interlaced GIF87a and GIF89a files and it can save non-interlaced GIF87a files. If a GIF89a file contains more than one image, it will display the first image in the file.

Targa

WinJPEG can view Targa files stored with 8, 15, 16, 24, or 32 bits per pixel and it can save uncompressed Targa files with 8 or 24 bits per pixel.

PCX

WinJPEG can view PCX files stored with 1, 4, 8, or 24 bits per pixel. If a 1, 4, or 8 bits per pixel PCX file does not have a valid palette, WinJPEG will use a default palette. It can save PCX Version 3.0 files with 1, 4, 8, or 24 bits per pixel.

Windows BMP and OS/2 BMP

WinJPEG can view Windows and OS/2 (1.x and 2.0) files stored with 1, 4, 8, or 24 bits per pixel and can view BMP files that are run-length encoded(RLE). In addition, it can display the first image in an OS/2 (1.x and 2.0) bitmap array. It can save uncompressed Windows or OS/2 (1.x and 2.0) BMP files in 1, 4, 8, or 24 bits per pixel and can save BMP files with RLE.

Note that some graphics viewers use the file extension ".RLE" for run-length encoded Windows BMP files. WinJPEG uses the ".BMP" extension as a default for such files.

Portable Pixmap (PPM)

WinJPEG can view Portable Pixmap(PPM) and Portable Graymap(PGM) files. It can save a subtype of the PPM format in which the pixel values are stored in binary. The color depth of this subtype is always 24 bits per pixel.

Interchange Format File (IFF)

The IFF format is a standard for Commodore Amiga computers. WinJPEG can read/write uncompressed and run-encoded FORM InterLeaved BitMap (ILBM) files stored with 1, 2, 4, 8, or 24 bits per pixel. Hold And Modify(HAM) mode is also supported.

How to Register

If you use WinJPEG for more than 14 days, you are expected to register WinJPEG. When you register, you will receive the latest 286 and 386 versions of WinJPEG, a user manual, and a collection of JPEG images (we will put as many as we can fit on 1 1.44M 3 1/2" floppy or on 4 360k 5 1/4" floppies). Also, the registered version does not have the reminder-to-register screen at the start.

The registration fee is $25. Massachusetts residents, add 5% sales tax to the registration fee. US residents, add $4 for shipping and handling; non-US residents, add $8 for shipping and handling. If you want WinJPEG e-mailed to your account instead of having it physically mailed to you, there is no extra shipping charge. The above prices represent a cash discount; if you are paying with a Visa or MasterCard, add 10% to this subtotal.

Registered users of WinJPEG can purchase the latest version for $5. Shipping and handling fees described above apply to these updates as well. Updates are available when you see a new shareware version.

For e-mail registrations, you need to use a program called "uudecode" to decode the uuencoded file that we e-mail to you. For your information, a uuencoded file is a binary file that is converted to text by a program called "uuencode." If your mail system rejects large messages, we will split the uuencoded file into smaller parts before mailing the parts to you, and you will need to edit the messages with a text editor before you can decode them. Compuserve, America Online, and Prodigy, for example, do not permit large e-mail messages. Also, the uuencoded file is rather large; it's approximately 1 MB for WinJPEG. Compuserve users, for example, may find it less expensive to receive WinJPEG via U.S. Mail.

Registrations with the incorrect fee or with non-US currency will be returned. Foreign registrations must send US currency or a check drawn from a US bank.

To register, complete the order form and send a check to:

PVS
ATTN: Norman Yee
58 Chandler St.
Boston, MA 02116
U.S.A.

Visit our Web page! URL: http://www.turnpike.net/metro/kyee/PVS.html

To print this form, select the File_Print Topic menu item. If you wish to type your order, edit the ORDER.FRM file that is distributed with the shareware version and print it.

ORDER FORM

Name: _____
Company: _____
Address: _____
City: _____ State: _____ ZIP: _____
Country (if outside US): _____
Phone Number (optional): _____ Circle: home or work
Shareware Version of Program evaluated (optional): _____
Where you found Shareware Version (optional): _____

Product	Quantity	Price Each	Total
PMJPEG for OS/2 2.x and Warp	____	$20.00 U.S.	_____
WinJPEG for Windows 3.x	____	$25.00 U.S.	_____
WinJPEG Update Fee (from any registered version of WinJPEG)	____	$5.00 U.S.	_____
Murals for Windows 3.x	____	$15.00 U.S.	_____

Merchandise Total: _____
5% Sales Tax (Massachusetts residents only): _____
Shipping and Handling (choose one): _____
__ E-mail (no additional charge)
__ U.S. residents ($4 U.S.)
__ Non-U.S. residents ($8 U.S.)
Subtotal: _____
Prices above reflect a 10% cash discount;
for Visa/MasterCard Orders, add 10% of Subtotal: _____
TOTAL: _____

(Non-credit card order payments must be in U.S. cash, U.S. funds drawn on a U.S. bank, or a postal money order)

Please fill in the following for Credit Card Orders:
Signature: _____
Name on Card: _____ Visa [ ] MasterCard [ ]
Credit Card Number: _____ Expiration Date: _____

Choose Disk Size (check one if you did not select "E-mail" for shipping):
__ 5 1/4" DS/DD (360K) disk
__ 3 1/2" DS/HD (1.44 MB) disk

E-mail Address (optional except E-mail Shipping): _____
Circle Type of Email Address: Internet Compuserve AOL Delphi
(Compuserve, AOL, and Delphi users, please be aware that a WinJPEG E-mail registration can be sent to you in over 20 uuencoded parts

and
requires a program called uudecode to convert the uuencoded text back
to a binary file.)

Mail to: **E-mail Address:**
PVS **nyee@netcom.com** **(Internet)**
Attn: Norman Yee **INTERNET:nyee@netcom.com** **(Compuserve)**
58 Chandler St.
Boston, MA 02116
U.S.A.

Reporting Bugs

If you find a bug in WinJPEG, we would appreciate it if you would inform us of the bug through our e-mail account:

nyee@netcom.com (Internet)
INTERNET:nyee@netcom.com (Compuserve)

When you send us a bug report, include a description of the procedure for reproducing the bug and a description of your system configuration(hardware and software).

License Agreement (applicable to registered users)

You are licensed to single-copy use of WinJPEG; this means that you can install your registered version of WinJPEG simultaneously on one computer at work, one computer at home, and one portable computer, if only one copy is in use by the registered individual at a time. You may make copies of the registered WinJPEG disk as necessary for normal backup purposes; you agree not to make any copies of the printed WinJPEG manual or the registered version of WinJPEG for others.

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Acknowledgments

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

TIFF support in WinJPEG is based in part on Sam Leffler's TIFF library.

Copyright Notice for Sam Leffler's TIFF Library

WinJPEG Features

WinJPEG v.2.7 is a shareware image viewer with image processing and conversion capabilities for Microsoft Windows 3.x. It has the following features:

- Supports the following file formats:
  - BMP (Windows 3.x, OS/2 1.1, and OS/2 2.0)
  - Graphics Interchange Format (GIF)
  - Interchange Format File (IFF)
  - JPEG File Interchange Format (JFIF)
  - PCX
  - Portable Pixmap (PPM)
  - Targa
  - Tagged Image File Format (TIFF)
- Display an image with its full palette or in full screen mode
- Zoom with fixed or user-selected scales
- Print an image with scaling or with best proportional fit on the page
- Image processing features:
  - red/green/blue or hue/saturation/brightness adjustment
  - color to grayscale conversion or image negative conversion
  - contrast enhancement
  - gamma correction
  - image rotation, vertical or horizontal flip, image resizing, and image cropping
  - filters including sharpen, smooth, Laplacian, point detection, line detection, edge detection, median, or custom filters
  - bit slicing
  - color reduction
- Batch file conversion of a list of files to a specified format
- Slideshow features:
  - display selected files in forward, reverse, or random order with a cycle option
  - image buffering in a cyclic slideshow
  - slideshows can be started from the command line
- Clipboard support
- Screen capture
- Support for Windows 3.1 features like drag-drop and common dialogs
- Support for file name extension association

There are three versions of WinJPEG: a 386+ version for 386's or better, a 386 version for 386's or better, and a 286 one for 286's or better. The shareware version is a fully functional 386 version. The 386+ version is almost twice as fast as the shareware version in decoding JPEG's without sacrificing image quality, and it can be obtained by registering WinJPEG. See How to Register for more information.

Drag-drop Support

If you are using Windows 3.1, when you drag one or more files from File Manager to an open WinJPEG and drop them there, WinJPEG will automatically enter the slideshow mode and display those files in the order in which they are listed in File Manager. There is a delay, which can be set in the Slideshow dialog box, between displayed pictures.

Selecting a Region to Copy, Crop, or Zoom

To select a region of the image, click on the image with the left mouse button. While holding down that button, move your mouse until the rectangle surrounds the desired region, and then release the mouse button. The dimensions of the selected region are displayed in the center of the indicated region.

Converting File Formats with WinJPEG

Images can be converted from one file format to another in two ways: 1) you can use the Batch Conversion feature to convert a list of files to a selected file format, or 2) you can load an image with the File Open menu item and save it to the desired file format with the File Save As menu item.

If you choose the latter method, you should set the Maximum Color Depth option to 24-bit before loading an image if you don't want the image degraded. If the color depth of the image is greater than the **Maximum Color Depth** setting, the color depth of the image is reduced to this setting after it is loaded. In this case, colors are lost, and noise is introduced into the image by dithering. Setting **Maximum Color Depth** to 24-bits per pixel before loading the image ensures that there is no color reduction. However, if you want to save the image as it is displayed on your screen, you can leave the **Maximum Color Depth** set to the number of colors supported by your display driver. The **Maximum Color Depth** option does not affect images converted with the Batch Conversion feature.

When WinJPEG performs color reduction on an image, WinJPEG will warn you when you try to save that image.

Notes about OS/2 2.0

When you run WinJPEG under OS/2 2.0, WinJPEG cannot allocate more than 1 MB of contiguous memory at a time. Because of this limitation in OS/2 2.0, WinJPEG cannot allocate enough contiguous memory if the image is too large. In addition, this limitation will cause the JPEG code to use temporary files most of the time. OS/2 2.1 allows Windows applications to allocate more than 1 MB of contiguous memory and it fixes this problem.

Keyboard Accelerators

WinJPEG lets you use the following key combinations to perform the corresponding functions.

Key(s)	Function
Del	Delete File
Alt + Backspace or Ctrl + Z	Undo Changes
Alt + Shift + Backspace or Ctrl + R	Redo Changes
Ctrl + Ins or Ctrl + C	Copy Image to Clipboard
Shift + Ins or Ctrl + V	Paste Image from Clipboard
Home	Scroll Left by a Page
Up Arrow	Scroll Up by One Pixel
Page Up	Scroll Up by a Page
Left Arrow	Scroll Left by One Pixel
Right Arrow	Scroll Right by One Pixel
End	Scroll Right by a Page
Down Arrow	Scroll Down by One Pixel
Page Down	Scroll Down by a Page
Esc	Cancel File during Open, Save, Slideshow, or Batch Conversion
Ctrl + F4	Cancel Slideshow or Batch Conversion
F10	Cancel File and Advance to Next Slide during Slideshow

Command Line Slideshow

A slideshow can be initiated from the DOS or Windows command line by adding a list of files after the winjpeg.exe in the command line. For example, if you are starting WinJPEG and Windows 3.x from the DOS command line, type following command at the DOS prompt to display the three files, "mirri3.jpg, "mirri4.jpg," and "ksc.jpg":

```
win winjpeg.exe mirri3.jpg mirri4.jpg ksc.jpg
```

This example assumes that "winjpeg.exe" is in your search path and this command is executed in the directory containing the images. If this is not the case, standard DOS paths can be inserted in front of the filenames.

If you are already running Windows, you can start a command line slideshow from the Program Manager's or File Manager's File Run menu command. For example, to display the above files in a slideshow, type the following in the Command Line edit box:

```
winjpeg.exe mirri3.jpg mirri4.jpg ksc.jpg
```

The slideshow options last saved in WinJPEG will be used for the slideshow started from the command line.