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ImageView Menu Commands

SPRY ImageView is an image viewer for Windows.   ImageView enables you to view high quality image files that you retrieve from the Internet.   ImageView is a very sophisticated image viewer; you can view, change, save, and convert images with ImageView.   ImageView features many advanced configuration options.

ImageView can load/save image files in: JPEG JFIF, GIF 87a/89a, Truevision TARGA, Windows and OS/2 BMP. ImageView can perform batch compression, contact sheet image merging and slideshow viewing.

Image editions include: Cropping, Resizing, Rotating, RGB, Contrast, HSV, YCrCb, Gamma, conversion to Grayscale, photo Negative, Interactive RGB editing with algebraic function mapping definitions, individual palette entry edition, smoothing filter, adding text and full support for cutting and pasting image pieces. ImageView supports 24 bit images and 8 bit images, providing a configurable quantizer for up to 2 passes.   Floyd-Steinberg Dithering is also supported.

Windows drag-and-drop and file name extension association are also supported.

ImageView is compatible with WECJLIB.DLL, a fast Jpeg decompression library from Express Compression Laboratories.

This software needs a 386 or better CPU to run.   A true color SVGA card is also recomended, though the software will run under on most cards. A mouse is required for some functions.

Although ImageView is set up to be used automatically in several of the accompanying applications, you can also run it as a stand-alone application.

Start ImageView by clicking the **ImageView** icon. The ImageView application is displayed.

An image can be opened by choosing **Open** from the **File** menu, and specifying the path and filename for the file you want to view.

ImageView has many menu commands that allow you to perform commands and set ImageView options.

See Also

ImageView Menu Commands

File Menu

Edit Menu

Options Menu

Retouch Menu

Options Menu

In the **File** menu you will find commands to open and save an image file, possibly converting its format.   The File menu commands are listed below.

New

Open

Save

Save As

Delete

Exit

This command will allow you to create an empty image for edition. You will be asked for the new image dimensions, and ImageView will paint it with the current background color. You can construct an image from pasting pieces of other images from the clipboard and adding text to it.

This command will open a dialog window to specify the file name and directory for the image to be loaded. Loading attributes comply with the current setup. See the Options menu commands for information.

This command saves the displayed image using the original file name. Attributes comply with the current setup. See the Options menu commands for information.

This command will open a dialog window to specify the new file name to which the image is to be saved. Image saving attributes comply with the current setup. See the Options menu commands for information.

This command will delete the last filename successfully opened or saved. You will be prompted for a confirmation, before deletion takes place.

This command will end ImageView. If an image is being loaded or saved when you select this command, ImageView will prompt you for a confirmation before exiting. If the image has been changed, ImageView will offer you to save it before exiting.

In the **Edit** menu you will find commands to access the clipboard, change image size and position. All commands in this menu will operate restricted to the current selected area, if any.   The Edit menu commands are listed below.

Cut

Copy

Paste

Delete

Resize

Redimension

Crop

Apply

Undefine

Add Text

Flip Horizontal

Flip Vertical

Rotate Left

Rotate Right

Transfers the current image to the clipboard, and erases it from ImageView's window. This command is useful when Windows is low in memory. If you want to copy the image to the clipboard and retain it in ImageView, use the Copy command.

If you select this option after defining a selection area on the image, ImageView will copy only this selected area to the clipboard.

Copies the current image to the clipboard. This command does not erase the image from ImageView's window. If Windows is low in memory, try the Cut command.

If you select this option after defining a selection area on the image, ImageView will copy only the selected area to the clipboard.

Copies an image from the clipboard to ImageView's window. If ImageView is already an image, the clipboard image will be pasted to a detached selection area and placed in the upper left corner of the image, ready to be moved or applied.

If the user defines a selection area prior to pasting, the clipboard image will be resized to fit that area, and pasted over it.

Deletes the image from ImageView's window. This is useful to free memory without exiting ImageView. If the user defines a selection area, only that area will be deleted.

Resizes the image to a new width and height.

You will set the new width and height in a dialog, where you can choose from a few predefined dimensions or define custom values for width and height. The "Fit to desktop" option will resize the image to the maximum dimensions the current graphics mode can exhibit without using scrollbars.

In the Resize dialog, keeping the "Preserve aspect ratio" box checked will make ImageView recalculate the specified   width or height to preserve the image aspect ratio. The image's new width and height will not exceed the ones you choose. This will work for the predefined dimensions as well.

If a selection area is defined, resizing will act on it.

Redimensions the image to a new width and height.

This command is similar to the Resize command, except that the image is not "Resized" to the new dimensions; rather, the image area becomes changed. The image will be cropped or extended to the new dimensions, without being resized.

If a selection area is defined, redimensioning will act on it.

Crops the image to the current selection area.

Cropping images is especially useful before converting GIF files to JPEG format. Always crop the border around the image, to improve both compression quality and ratio.

Tiles the detached selection area to its current position. This may be useful when it's difficult or impossible to click the mouse outside the selection area.

See the <u>Selection Area Procedures</u> section for more information.

Undefines either a DEFINED or a DETACHED selection area. This may be useful when it's difficult or impossible to click the mouse outside the selection area (for DEFINED areas), same effect as Edit/Delete for DETACHED areas.

See the Selection Area Procedures section for more information.

This command opens a dialog window where you can define a string of text to be added to the editing image. Text is always added to a detached selection area, that can be moved, applied or deleted after the closing of this dialog. If no area is defined, this command will create a default selection area in the upper left corner of the editing image. In the dialog you can define many characteristics for the text to be added, such as color, background color, orientation, positioning, font, and if the background should be opaque or transparent. You can also move and resize the selected area while defining the text to be added, by clicking on the small arrows in the dialog's window. The arrows can compress, expand or move the selection area in the four directions (up, down, left and right).

Flips (mirrors) the image horizontally. If a selection area is defined, only that area will be flipped.

Flips (mirrors) the image vertically. If a selection area is defined, only that area will be flipped.

Rotates the image counter clockwise, transforming rows into columns and vice-versa. If a selection area is defined, only that area will be rotated.

Rotates the image clockwise, transforming rows into columns and vice-versa. If a selection area is defined, only that area will be rotated.

In the **Retouch** menu you will find commands to edit the image in terms of different graphical image representations.   The Retouch menu commands are listed below.

GrayScale

Negative

HSV Adjust

YCbCrAdjust

Color Balance

Contrast Enhance

Gamma Correction

Interactive RGB

Palette Entry

Smooth Filter

This command will transform the image being displayed to Grayscale representation. The user will be asked to confirm the selection, before the image is changed.

This command will make a "photographic negative" from the image being displayed. The user will be asked to confirm the selection, before the image is changed.

This command will open a dialog window with scrollbars to edit HSV values for the image displayed. Moving the scrollbars will change each attribute. Lower/Upper values will Decrease/Increase the global amount of (H)ue, (S)aturation and (V)alue for the image.

During a display/edit session of an 8-bit image, moving the scrollbars will automatically alter the image. For 24-bit images, you will have to set a new value for each component, and then click on the "EXEC" button for the changes to take effect. As HSV editing is slower (but still feasible) for 24-bit images, making all the desired changes in one pass will cut down editing time.

All changes are performed on the original image. If you are satisfied with an HSV setting, click on the "UPDT" button, and the original images are updated to the current editing setting. If after further editing you click on the "CANCEL" button, you will exit the dialog, and the image will be reset to the last update saved. Click on "OK" to update the image to the current setting and exit the dialog.

Prop Sat/Prop Val

These are two check boxes in the HSV dialog. When checked, they will make ImageView alter Saturation and Value attributes "proportionally." In short, this means that when you increase Saturation or Value attributes for the image, pixels low on the edited attribute will be more increased than pixels high on it. Conversely, when you decrease the attribute value for the image, pixels high on the attribute will be more decreased than pictures low on it. If you uncheck these boxes, Saturation/Value offsets apply equally to all pixels. Checking is useful, for instance, to brighten up the darker pixels of an image without making its brighter pixels too bright. Note that extremely dark pixels may not brighten up consistently.

This command will open a dialog window with scrollbars to edit Y, Cb and Cr values for the image displayed. Moving the scrollbars will change each attribute. Lower/Upper values will Decrease/Increase the global amount of Y, Cb and CR pixel components.

During a display/edit session of an 8-bit image, moving the scrollbars will automatically alter the image. For 24-bit images, you will have to set a new value for each component, and then click on the "EXEC" button for the changes to take effect. As YCbCr editing is slower (but still feasible) for 24-bit images, making all the desired changes in one pass will cut down editing time.

All changes are performed on the original image. If you are satisfied with an YCbCr setting, click on the "UPDT" button, and the original images are updated to the current editing setting. If after further editing you click on the "CANCEL" button, you will exit the dialog, and the image will be reset to the last update saved. Click on "OK" to update the image to the current setting and exit the dialog.

This command will open a dialog window to edit the Red, Green and Blue attributes of the image. Increasing/Decreasing any of these attributes will increase/decrease the corresponding value for each pixel on the image. If you are viewing a 24-bit image, set new offset values for Red, Green and Blue and then press the "Exec" button to execute your choices. On a 256 color display, editions will be executed as soon as they are defined.

This command will open a dialog for the image. Increasing/Decreasing the Contrast value will increase/decrease the image's Contrast.

This command will open a dialog window to edit the gamma (brightness) value for the Red, Green and Blue attributes of the image. Increasing/Decreasing any of these attributes will increase/decrease the corresponding gamma value for each pixel on the image. Selecting "Lock RGB" will make ImageView apply the same gamma to Red, Green and Blue components. Unchecking "Lock RGB" will allow for individual gamma settings for Red, Green and Blue. If you are viewing a 24-bit image, and "Lock RGB" is not selected, set new gamma values for Red, Green and Blue and then press the "Exec" button to execute your choices. On a 256 color display, or if "Lock RGB" is unchecked, editions will be executed as soon as they are defined.

This command will open a dialog window for interactive RGB editing.

The user will define the mapping for Red, Green and Blue transformations, either by "drawing" a curve on the mapping display, or by defining a Function (see Calculator for details on building function expressions).

Checking "Lock RGB" makes ImageView utilize the same mapping for Red, Green and Blue. Unchecking allows for individual mappings. The buttons "R", "G" and "B" select for which component the map being edited will affect.

The "Order" option can be set to "No Order", "Increasing Order" or "Decreasing Order". Selecting "No Order" will allow for any mapping to be defined. Selecting "Increasing Order" will restrict mappings to monotonically increasing curves. Conversely, selecting "Decreasing Order will restrict mappings to monotonically decreasing curves. When using a "Function" to define a mapping, ImageView will set "Order" to "No Order".

The "Function" button will prompt the user for an expression for f(x), where x represents either the Red, Green or Blue component, whichever is being currently edited. If "Lock RGB" is set, the user supplied expression will be used for all components. When writing an expression, keep in mind that color components range in the closed interval [0..1]. The expression will be evaluated for discrete values in the range [0..1] for x, and the resulting f(x) will be truncated to [0..1]. When writing expressions for mappings, use the predefined variable "x" as the current component value.

Function examples: The function "x" (identity function) will map components to their current values, making no change on the image. The function "x^2" (x squared) will stretch the contrast for the component to which it is applied. Try the function "0.5-cos(x*pi)/2", for a smooth contrast edition.

The "Exec" button makes ImageView perform the changes on the image being displayed, according to the defined mappings. The "Ok" button will end the dialog and perpetuate changes. The "Cancel" button will end the dialog and restore the image as it was before the dialog began.

This command is only available for 8-bit images. It will exhibit a window with all palette entries for the image being edited. Choose an entry and close this window with the OK button. The 24-bit color editor will be called to allow you to change the color for the selected palette entry. Changes will be reflected on the image being edited. If you are satisfied with the editing results, click on OK, otherwise click on CANCEL, and the palette will be remain unchanged.

This command is only available for 24-bit images. By averaging each pixel's color value with its close neighbors, it smooths edges and helps improve the aspect of heavily dithered images. It is a time consuming command, and if repeatedly applied on an image will cause excessive blurriness.

In the **Options** menu you will find commands to configure several aspects of ImageView's behavior. Your execution options can be saved, restored or reset default values.   The Options menu commands are listed below.

8-bit Bitmap

Write 1&4 Bit Bitmaps

Auto-resize

Show Scroll Bars

Thick Area Frame

Use system colors

Fit on load

Place window at

Drop to

JPEG Options

Slideshow Options

Contact Sheet Options

Memory Options

Set Background Color

Confirm Jpeg GScale Save

Confirm ALL Saves

Popup When Iconized

Load all Options

Save all Options

Default Options

Regardless of their file format, images are translated into Windows Device Independent (DIB) format when loaded. ImageView can work with 8 and 24 DIBs. Set this option to make ImageView use an 8 bit DIB even when loading a 24 bit image. If your video card is limited to 256 colors, you can still view 24 bit images using 8 bit Bitmaps. When reading JPEG files (stored with 24-bit per pixel color information), ImageView will quantize the image according to the options you set in the JPEG Options dialog.

This option will be automatically selected if ImageView senses that your display can handle at most 8-bit pixel resolution (with palette references). If you then uncheck this option, ImageView will warn you that images will not be displayed correctly. Nevertheless, you should uncheck this option to perform format conversions, or image editions. This way, even if the image you see on the screen seems to have the "wrong" colors, image quality loss will be reduced in the process of saving edited/converted images.

The version of WECJLIB.DLL included in ImageView's package does not support 24-bit image decoding. You will be asked for a confirmation if you uncheck "8-bit Bitmap" and have not set "Assume ECJ pro version" in Options/Jpeg Options.

ImageView can process images of less than 16 colors. If you turn this option on, When you save a file to either Windows Bitmap or OS/2 Bitmap format, ImageView will, whenever possible, create 1 or 4 bit Bitmap files. If you turn this option off, only 8 or 24 bit Bitmap files will be written. The default setup for this option is CHECKED.

Turning this option ON will make ImageView try to resize its window to the size of the image being displayed. If the image does not fit the maximum window size of your desktop, scrollbars may be added to ImageView's window. See the Show Scroll Bars command for more details.

Turning this option OFF will prevent ImageView from changing its window size. The default setup for this option is CHECKED.

Turning this option ON will make ImageView exhibit scrollbars whenever the image is larger than the ImageViews's client area. Turning this option OFF will prevent ImageView from exhibiting scrollbars whenever the image is larger than the ImageViews's client area. Scrolling will still be possible by clicking the left mouse button and dragging it out of the client area.

The default setup for this option is CHECKED.

Checking this item will make ImageView exhibit a thicker boundary frame for selection areas. Thicker boundaries can make it easier to perform operations like moving and resizing selection areas. You can check and uncheck this item at anytime, and the selection area boundary will reflect the change.

The default setup for this option is UNCHECKED.

By default Windows reserves 20 colors from the 256 system palette entries for internal use. These colors are associated with menu items, captions, and other system display objects. Because of these reserved entries, called "static colors," when a program displays a 256 color image some of its colors may be "remapped" to similar colors and not exhibited exactly as they are defined in the image logical palette. A Windows application may reduce the number of static colors down to only 2 entries. The benefit is that the application will then be able to display its images in a more accurate fashion. The drawback is that all other applications and system items will have their colors changed.

ImageView can optionally use static color entries, and does that in an ordered way. First, ImageView remaps to BLACK and WHITE the colors that previously used static entries (using the 2 remaining static entries). This way, they remain intelligible while system colors are changed. Then, ImageView only utilizes the static palette entries WHILE it is the active application. This means that whenever you select another window, or minimize ImageView, all colors will be remapped to their original values. When ImageView's window is made active again, the BLACK and WHITE mapping returns, and ImageView uses all possible colors for displaying the current image.

Using system palette entries is not always done in a proper way. When ImageView is activated, a verification is made to ensure that no other application has control over static color entries. If it is found that these entries were not released by other applications ImageView will avoid conflicts by NOT utilizing system static colors. A warning message will be displayed.

Using the scheme depicted above, two or more ImageView instances are able to run concurrently, even if they are all set to make use of static system colors. The option "Use system colors:" will tell ImageView how to make use of static colors. It can be set to:

Never

Choosing this option will make ImageView preserve Windows system colors.   In general, this represents very little loss on image quality. (DEFAULT option setup).

While focused

Choosing this option will make ImageView use all possible palette colors ONLY while ImageView is the active application.   When you switch from ImageView to another application, all static system colors will be restored.

This option does not affect the exhibition of images in true color mode (that is, when 8-bit Bitmap is NOT selected), even when the image is defined in terms of palette colors, like GIF files. Also, this option does not affect image edition or compression quality.

ImageView can automatically fit loaded images to the desktop size. This is an operation equivalent to loading an image and then choosing the Edit/Resize command, and setting the image to "Fit the desktop" while preserving the aspect ratio. Except that this operation is automated, and works during ALL image loads, including SlideShow viewing, Batch compression and Clipboard pasting.

Fit on load can be set to one of the following:

Never
Choosing this option will make ImageView preserve the image size after loading it. In general, you should choose this option prior to batch compressing (DEFAULT setup).

to Shrink
Choosing this option will make ImageView resize images that would otherwise exceed the desktop maximum dimensions.

to Enlarge
Choosing this option will make ImageView resize images that would otherwise be smaller than the desktop maximum dimensions.

Always
Choosing this option will make ImageView resize ALL images after loading.

ImageView can automatically position its window after loading images either from the disk or pasting from the clipboard.

Place window can be set to one of the following:

Same
Choosing this option will make ImageView preserve the window position after loading images. This is the default option. It can also be set with the accelerator key CTRL+S (DEFAULT setup).

Left & Top
Choosing this option will make ImageView reposition its window to the upper left corner of the desktop after loading operations. It can also be set with the accelerator key CTRL+HOME.

Left & Bottom
Choosing this option will make ImageView reposition its window to the lower left corner of the desktop after loading operations. It can also be set with the accelerator key CTRL+END.

Right & Top
Choosing this option will make ImageView reposition its window to the upper right corner of the desktop after loading operations. It can also be set with the accelerator key CTRL+PGUP.

Right & Bottom
Choosing this option will make ImageView reposition its window to the lower right corner of the desktop after loading operations. It can also be set with the accelerator key CTRL+PGDN.

Center
Choosing this option will make ImageView reposition its window to the center of the desktop after loading operations. It can also be set with the accelerator key CTRL+C.

ImageView can automatically load a group of files, either to show them as a slideshow, to compress them in batch to JPEG format, or to build a contact sheet image.   Use Window's File Manager to select the files you wish to view, compress, or merge, and then drag them to ImageView's window. If you set this option to "Slideshow," ImageView will load the files and show them successively. If you set this option to "Compress," the files will be compressed using the current JPEG Options. Setting this option to "Contact Sheet" will make ImageView merge each image file to a single image, accordingly to the options set on the Contact Sheet Options command.   To interrupt batch compression, slideshow viewing, or contact sheet making, click the right mouse button anywhere in ImageView's client area, or select the Menu Bar option.

In this dialog you will customize JPEG decompression (for loading images) and compression (for saving images and batch compression) parameters.

Decompression setup

If you enable the 8-bit Bitmap menu item, JPEG images will be quantized for display. You should not enable this option for batch compressions. You can set the number of quantizing passes to one or two. You can also turn Floyd-Steinberg dithering on/off for quantized images. For quantized images, the total number of colors in the generated palette is set with NColors. The best results, of course, will be obtained with 256 colors, but you can experiment with fewer colors. Furthermore, if you set NColors to 16 or less, and also set both 8-bit Bitmaps and Write 1&4 bit Bitmaps, saving the image to Windows or OS/2 DIB formats will produce DIBs with fewer bits per pixel, which, besides taking less disk space, can be used as icons. Checking the "Load GrayScale" checkbox will force JPEG images to be loaded without color information (only intensity).

"Load GrayScale" mode provides faster image file loading, if you are using the IJG code. This can be useful for image previewing.

"use ECJ DLL" when checked will make ImageView use the WECJLIB.DLL routines for FAST jpeg file loading. For more information about this DLL refer to WECJLIB.DLL FAST Decompression Jpeg Library. Unchecking this item will make ImageView use the IJG code for jpeg file loading.

"Assume ECJ pro version", when checked, tells ImageView that you are using the full version of WECJLIB.DLL that provides for 24-bit image decoding, and 2-pass quantizing/dithering in 8-bit mode. If you do not check this item, ImageView will confirm any setups that might not be supported by the free version of WECJLIB.DLL. "Decompression Mode" can be set to "Normal" or "Preview", allowing for two distinct decompression setups. The recommended usage is to set high quality image decompression options when "Normal" is selected, and set faster options when "Preview" is selected. The options dependent to "Decompression Mode" are "use ECJ", "Load Grayscale" and "8-bit Quantization".

If you are running the full version of WECJLIB.DLL you can check "use ECJ" for both "Normal" and "Preview" modes. This is the faster option and does not compromise image quality. If you are running the free version of WECJLIB.DLL (which is distributed with ImageView), you should uncheck "use ECJ" for "Normal" mode. The faster options are "1-pass" for "8-bit Quantization" and unchecking "Floyd-Steinberg Dithering". Conversely, to achieve a better quality image decompression, choose "2-pass" for "8-bit Quantization" and check "Floyd-Steinberg Dithering".

Compression setup

JPEG compression is "lossy". This means that the image you compress will not exactly match the original image. The "Quality" setting allows you to compromise between file size and compression fidelity. Set larger/smaller values for "Quality" to get larger/smaller files, with better/worse fidelity compared to the original image. In ImageView, the minimum value allowed for "Quality" is 20, and the maximum 95. When compressing images that have been dithered, increasing the value for "Smooth Factor" will make ImageView try to reduce image noise. That way you will get a smaller and (generally) better image. "Smooth Factor" may vary from 0 to 100, and usually a value of 20 to 50 will work fine for dithered images. Keep "Smooth Factor" turned off (zeroed) when saving non-dithered images. When checked, the "Entropy Optimization" option will make ImageView optimize JPEG compression tables, and generate smaller files. It will also marginally slowdown compression. When checked, the "Save GrayScale" option will compress the image in grayscale, regardless of its original color information. Turn this option on to save a grayscale image. DON'T FORGET TO TURN IT OFF AFTERWARDS. Sampling factors may be set to h2v2 (the default) or h2v1. Use h2v2 to obtain better compression ratios. h2v1 usually produces better image compression quality, at the expense of generating larger files.

The "Default Setup" button will restore the factory defaults for JPEG Options alone.

In this dialog you can customize ImageView's Slideshow behavior. Pictures can be switched automatically (timed), or manually. If you choose "automatic", ImageView will start to load the next Slide after the specified delay time. If you choose "manual", ImageView will wait until you click the left mouse button anywhere inside ImageView's client area to begin loading the next Slide. If you check the "Cycle Slideshow" checkbox, ImageView will reload the first Slide after you view the last one, and restart the slideshow. To interrupt the slideshow, click the right mouse button anywhere inside ImageView's client area. You will be prompted to confirm that you want to stop the slideshow.

This item will open a dialog window to set the options: text font, text color, text background, image background and image dimensions. These options will be used when building contact sheet images.

This command will present a dialog for configuring memory usage. The user can choose to use only available main memory, or allow for temporary file creation, in a specified directory.

This command will allow you to define a 24-bit color as the *background color*. The background color is used to erase the background of a selection area that is detached with a LEFT button mouse click. This color is also used to paint the image background of a New image, or of a Redimensioned image. When editing 8-bit color images, this color will be mapped to the closest palette entry of the image being edited. Use the Palette Entry command to see the palette colors for the image, and fix one entry to approximate the background color.

Checking this item will make ImageView prompt for confirmation whenever saving an image to JPEG format, with the "Save Grayscale" option checked. The default setup for this option is CHECKED.

Checking this item will make ImageView prompt for confirmation whenever you issue the **Save** command. The default setup for this option is UNCHECKED.

Checking this option will make ImageView restore its window whenever it loads an image file, even when Iconized. Unchecking will make ImageView stay as an Icon after loading images.

Clicking on this menu item will make ImageView reload all options from disk. Use this command if you set options for a particular image, and want to reset your configuration without having to reset each altered option individually.

Most of the options set by menus and/or dialogs can be altered and the new setup can be saved. Use this menu item to save your customized ImageView setup.

This menu item will restore ImageView's factory defaults.

Selection areas are pieces of image that can be processed independently from the editing image. All commands in the Edit menu will act only over the current selected area, if one is defined. A selection area has two modes: DEFINED and DETACHED. An area is DEFINED when it is visually represented by a RED and WHITE rectangular boundary, and is DETACHED when it is represented by a BLUE and WHITE rectangular boundary. DEFINED areas can be moved, redefined and undefined. DETACHED areas can be moved, applied (tiled) and undefined. The sections below describe how to work with selection areas.

Creating an Area

You can define (create) a selection area by clicking and dragging the left or right mouse button anywhere on the editing image. While you drag the mouse, the area boundary will be displayed in red and white. The creation process ends when the mouse button is released. Areas with width or height less or equal to 1 are not allowed.

Redefining an Area

You can redefine a DEFINED selection area by clicking and dragging the left or right mouse button anywhere on the area's boundary. Clicking on one of its sides will make the area be moved, and retain its dimensions. Clicking on the box at one of its vertexes will allow for resizing the area. To define an entirely new area, click the mouse OUTSIDE the current area boundaries, and a new area will be created.

Selection areas can also be undefined by using the command Edit/Undefine.

Detaching an Area

Once an area is DEFINED, it can be DETACHED. A DETACHED selection area may be moved around, and applied anywhere over the editing image. You can DETACH a DEFINED selection area by clicking either the LEFT or RIGHT mouse buttons INSIDE the area boundary. If you click the LEFT button, the selected area will be detached, and the image underneath it will be erased with the current background color. If you click the RIGHT button, the area will be detached, and the image will not be changed.

Once detached the selection area boundary will change from red and white to BLUE and WHITE.

Moving a Detached Area

Once an area is DETACHED, clicking and dragging anywhere inside its boundaries will make it move. Drag it anywhere over the editing image. By default the area boundary will not be displayed while the area is moved, but you can make it appear by pressing BOTH left and right mouse buttons, while dragging. Once you release the mouse button(s), the detached area will stop moving at the place where it is left.

Applying a Detached Area

Once an area is DETACHED, it can be applied (tiled) to its current position over the editing image, by clicking either mouse button OUTSIDE the area boundaries.

Detached areas can also be applied by selecting the menu command Edit/Apply.

The Commands Window Tool is a separate window containing click-on bitmaps providing fast access to ImageView's most used features. Each bitmap, except the 2 last ones, will start a different function. The next to last bitmap will alternate the Commands Window Tool between the left and right sides of ImageView's main window. The last bitmap will reduce the Commands Window to a small button and place it on ImageView's main window caption bar. To restore the Commands Window Tool, just click on that button. Below is a list of the functions, in the order they appear in the Commands Window Tool.

- File/Open
- File/Save
- Options/Thick Area Frame
- Options/Thick Area Frame
- Edit/Crop
- Edit/Resize
- Retouch/Contrast Enhance
- Retouch/Gamma Correction
- Retouch/Color Balance
- Retouch/HSV Adjust
- Options/Jpeg Options

ImageView uses keyboard accelerator keys to complement and speedup common operations. When a menu item can also be accessed via a keyboard accelerator, the corresponding key combination will be shown after the menu item text. The following is a list of all accelerator keys implemented on this version:

Window client area scrolling (also active while defining a region):

HOME	scrolls one page to the left
END	scrolls one page to the right
PGUP	scrolls one page up
PGDN	scrolls one page down
UP ARROW	scrolls one line up
DOWN ARROW	scrolls one line down
LEFT ARROW	scrolls one column to the left
RIGHT ARROW	scrolls one column to the right

Common functions, also available in menu items:

SHIFT+DEL	same as Edit/Cut
CTRL+INS	same as Edit/Copy
SHIFT+INS	same as Edit/Paste
CTRL+DEL	same as Edit/Delete
CTRL+S	same as Options/Place window at:/Same
CTRL+HOME	same as Options/Place window at:/Left&Top
CTRL+END	same as Options/Place window at:/Left&Bottom
CTRL+PGUP	same as Options/Place window at:/Right&Top
CTRL+PGDN	same as Options/Place window at:/Right&Bottom
CTRL+C	same as Options/Place window at:/Center
CTRL+R	same as Edit/Resize

ImageView can load and save images in:

- JPEG JFIF: 24 bit image format.

- GIF 87a/89a: up to 8 bit image format.

- Truevision TARGA: up to 24 bit image format.

- Windows or OS/2 DIB format: 1, 4, 8, or 24 bit image format.

NOTE LE compressed DIBs are not supported.

ImageView has an internal "calculator" to evaluate user defined expressions. In this version, calculator usage is restricted to the Interactive RGB Command, but in future versions its usage will be spread to other advanced image editing functions. The calculator is a simple, yet powerful expression interpreter. It works on C-like expressions and provides operators, built in "scientific functions" and the predefined constants: "e" (base for the Napierian logarithms) and "pi" (3.1415...).

Calculator functions (all trig functions work in radians):

- logarithm of x on base b: Log (x, b)

- Napierian logarithm of x: Ln (x)

- Exponential of x (e^x): Exp (x)

- Sine of x: Sin (x)

- Cosine of x: Cos (x)

- Tangent of x: Tan (x)

- Cotangent of x (1/tan(x)): Cotg (x)

- Secant of x (1/cos(x)): Sec (x)

- Cosecant of x (1/sin(x)): Cosec (x)

- Arc for which tangent == x: Atan (x)

- Arc for which sin == x: Asin (x)

- Arc for which cos == x: Acos (x)

- absolute (positive) value of x: Abs (x)

- Hyperbolic sine of x: Sinh (x)

- Hyperbolic cosine of x: Cosh (x)

- Hyperbolic tangent of x: Tanh (x)

Calculator operators:

- for add, subtract, multiply, divide, raise and module: +   -   *   /   ^   %

- for grouping: ( )

- the usual comparison operators: ==   !=   >   >=   <   <=

- logical AND and OR: && ||

- C-like ternary operator: ?:

Example expressions:

x ^ 0.8 + sin (x), will return x raised to 0.8 plus the sine of x

x < 0.5 ? x : 0.5 - cos (x * pi) / 2, will return x if x < 0.5, otherwise

will return the result of 0.5 - cos (x * pi) / 2.

x == 0.5 || (x < 0.25 && x > 0.1) ? 1 : x, will return x, except for values of x in the range (0.1 .. 0.25) or x equal to 0.5. For these latter values, the returned value will be 1.