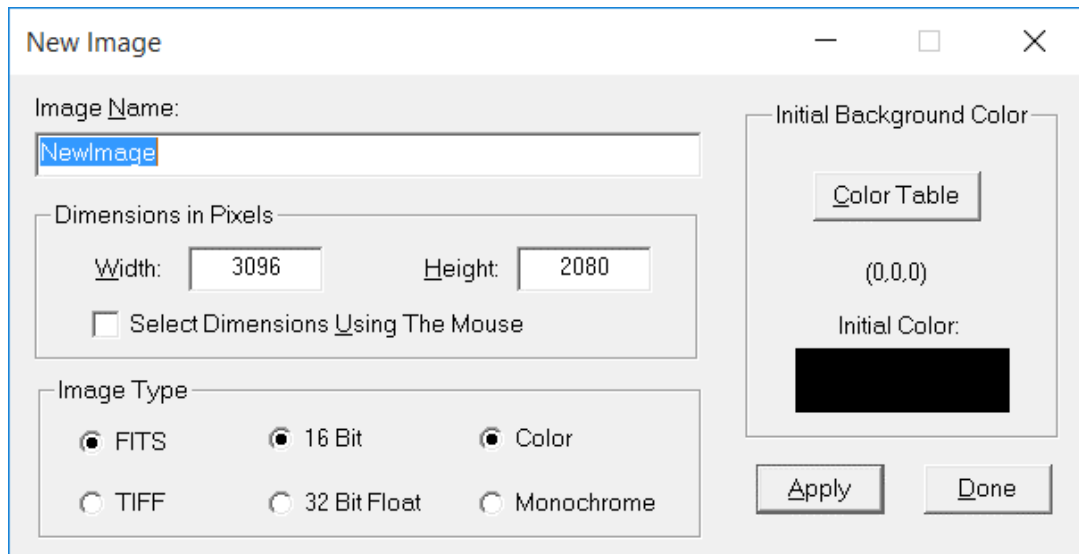**ImagesPlus Basic Interface Operation**

The basic interface operation menu options are located on the File, View, Open Images, Open Operators, and Help main menus.

File Menu

New

The New command creates a new color image or monochrome image. The background color is selected from a color table. The Split Channels or Split Luminance command can be used to create a monochrome image after images are added to the new image.

This command creates a new image that is temporarily saved on your hard drive to support the Process History tracking. To make the new file permanent Save, Save Copy As, Save Copy As With History , or Save As on the Process History window should be used. Otherwise the temporary file saved on disk will be deleted when closed.

Control Summary
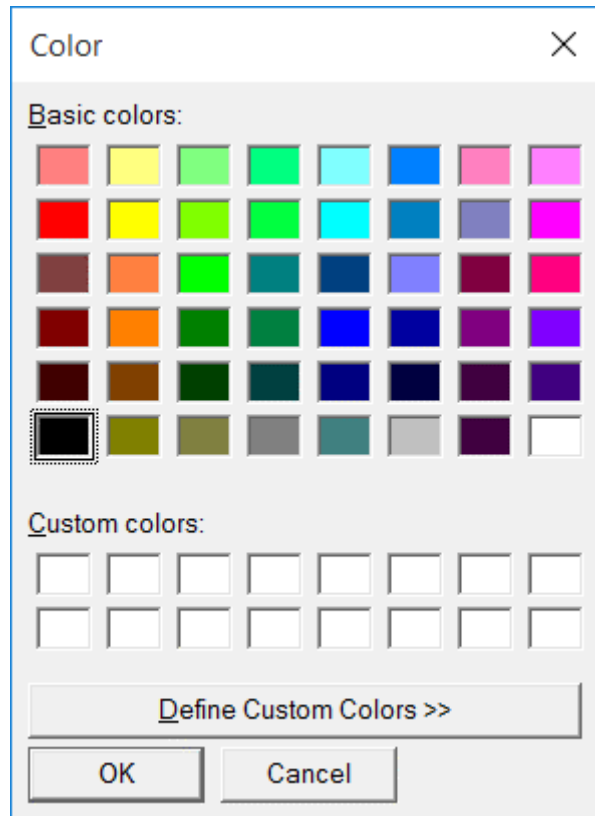
Image Name: The name of the new image.

Dimensions

Width: Width of the new image.

Height: Height of the new image.

Select Dimensions Using The Mouse: Click on an image to set the width and height of the new image.
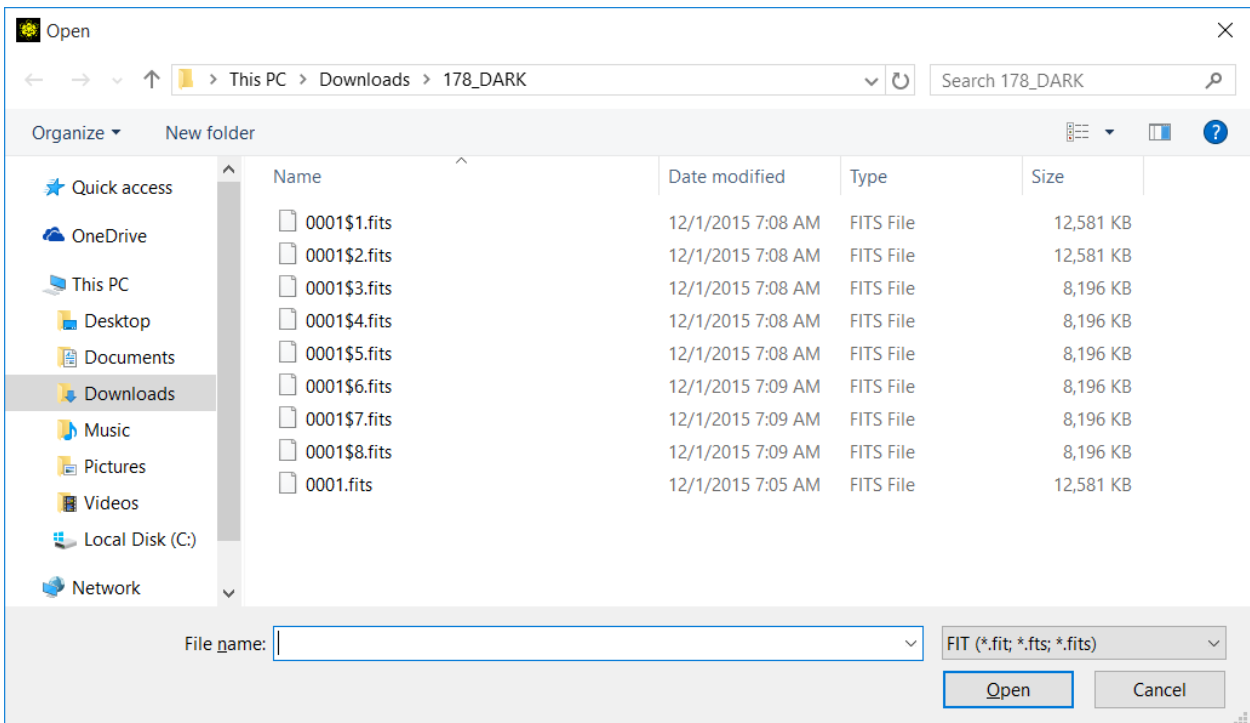
<u>Initial Background Color</u>

Color Table: To choose a color press the Color Table button and select the color. The initial color is displayed.

Apply: This button creates the new image.

**Done:** Choose this button to close the New Color Image dialog box.

Open

The Open command is used to open one or more images. To open multiple images, use the standard Windows file multi-select feature (CTRL + left click to select several images, Shift + left click to select a range of images). The Files of type combo box is a list of the image types that can be opened. ImagesPlus currently supports all FITS, JPEG, and 24-bit color Windows BMP image formats. The TIFF image format is supported in uncompressed 8, 16, and 32 bit floating point bit depth monochrome and color. DSLR raw files from Canon, Nikon, and other cameras can be opened.

The Esc key can be used to cancel opening multiple images.

The Image Set Operations | Convert Files tool is used to convert a set of image files from one format to another.

Canon MOV files are converted to SER format using the Image Set Operations | Convert MOV tool then opened using the Image Set Operations | Video File Display and Processing tool.

Load Project
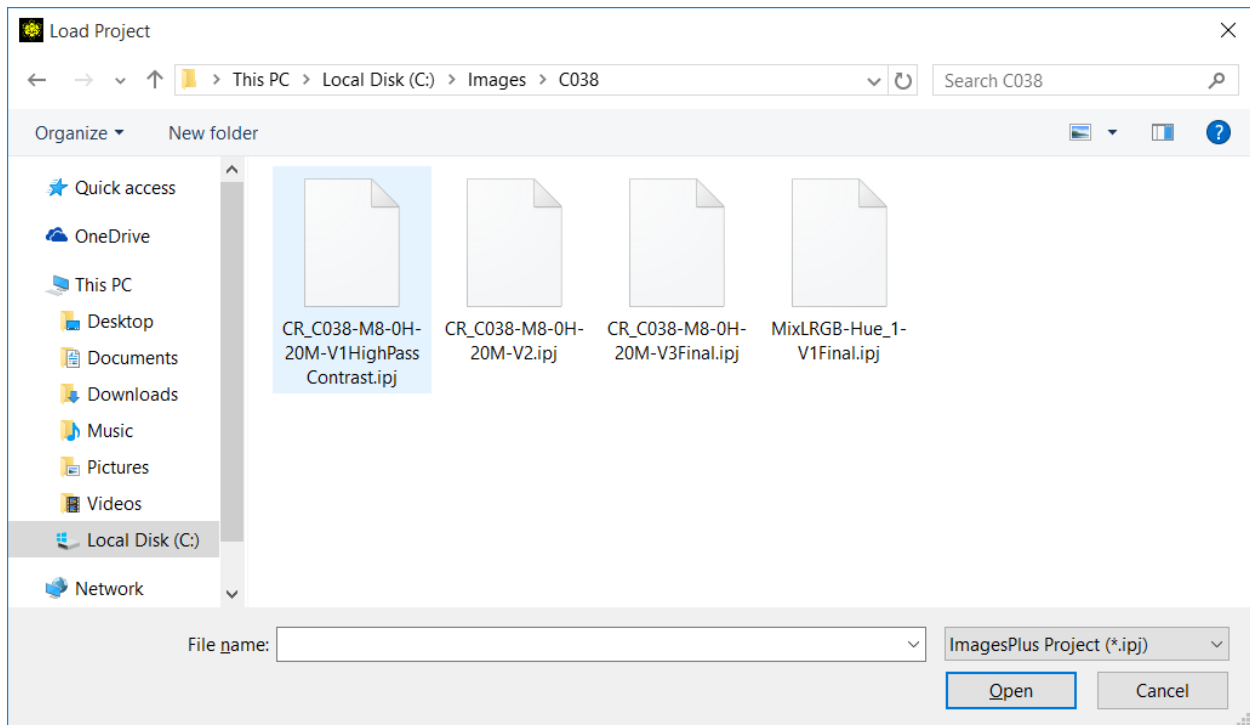
This command loads an ImagesPlus project file (*.ipj) and restores the Process History window to the same state as when the project was saved. The Process History window tracks the intermediate images, filter parameters, and masks as they are applied to an image. A project file is saved using the Save As button on the Process History window. If you open a color image then apply filters and masks the project file is saved in color format. Filters and masks applied to a monochrome image are saved in monochrome format.

Commands and masks loaded from a project file can be modified, deleted, and applied to other images. The Image Set Operations | Filter Files command can be used to apply commands stored in a project file to a set of images.

Detailed instructions for using the Process History layers window can be found at Layers, Blend Modes, Opacity & Masks, Making & Using Masks, and the many tutorials at the ImagesPlus tutorials page.

Loading A Project File

1) If all of the intermediate images and initial have been saved and not lost then loading the project file (*.IPJ) will completely restore the enhancement steps.

2) If the project file, intermediate images, and initial image have been copied to a different directory then they will load but the image path information needs to be updated. To

update the path information use this command to load the project file. Press OK on the next dialog box. Select a directory using the next dialog to use as the updated path. Just press Save on the *Select A Project File Save Directory On A Hard Drive* dialog box to use the current directory that holds all of the project files. After the project loads the Operation text will be red indicating that the image/command sequence needs to be rebuilt. You can either copy the commands to another image or use them with Filter Files without rebuilding the image/command sequence. If you want to completely restore the image/command sequence then reapply all of the commands using the All Commands or Next Command buttons on Process History.

3) If some of the intermediate images or masks are missing then the project will still load. But if you double-click on an image an *Error Loading Image* will appear for the missing intermediate image or mask. To completely restore the image/command sequence then reapply all of the commands using the All Commands or Next Command buttons on Process History. Masks will need to be rebuilt.

4) If the initial image is missing a new default image will be created and the commands loaded into its Process History window. The commands can then be copied to another image or used with Filter Files.

Note:

If masks are used in a project file then the commands and masks can only be applied to an image with the same pixel width and height as the masks saved in the project.

Print Image
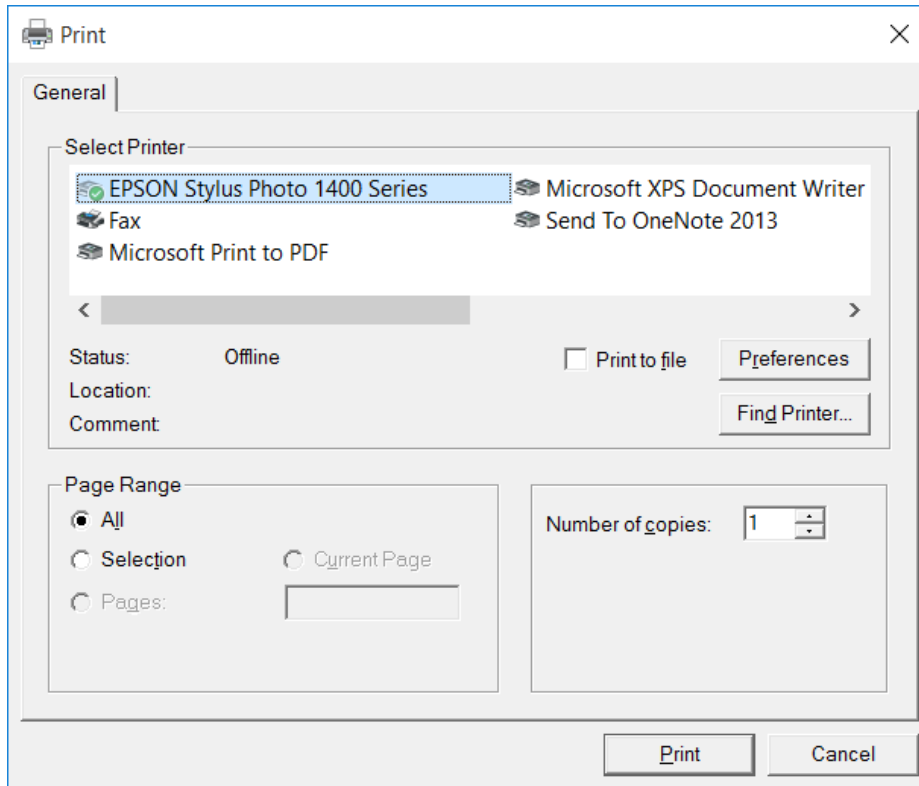
The Print Image command is used to print the current active image. After selecting a printer, orientation, paper size, and premium photo paper type the Print Image Scale dialog box will appear.
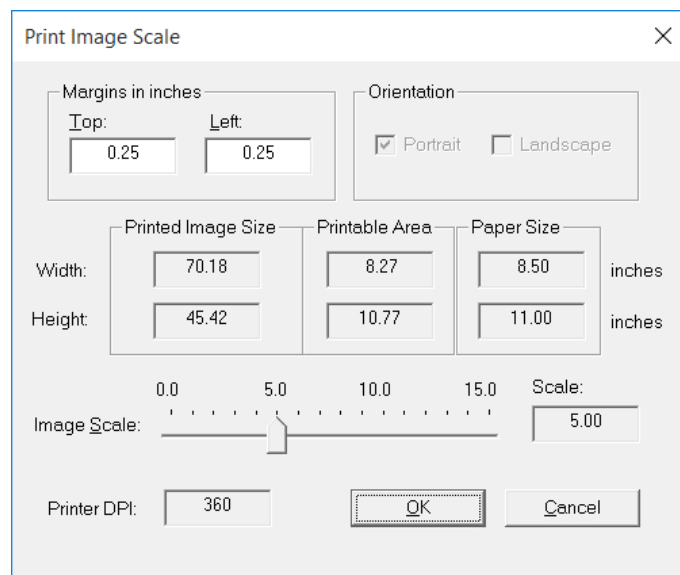
The Print Image Scale commands allow you to match the size of an image to the paper size. It operates like an enlarger for standard photography. The size of the printed image can be adjusted using the Image Scale slider. Small images can be enlarged and very large images can be reduced to fit on your paper selection. No clipping of the image will occur if the Printed Image Size plus Top and Left margins are less than the Printable Area.

The Geometric | Geometric Transform | Scale command can be used to reduce or enlarge an image before printing.

System Options
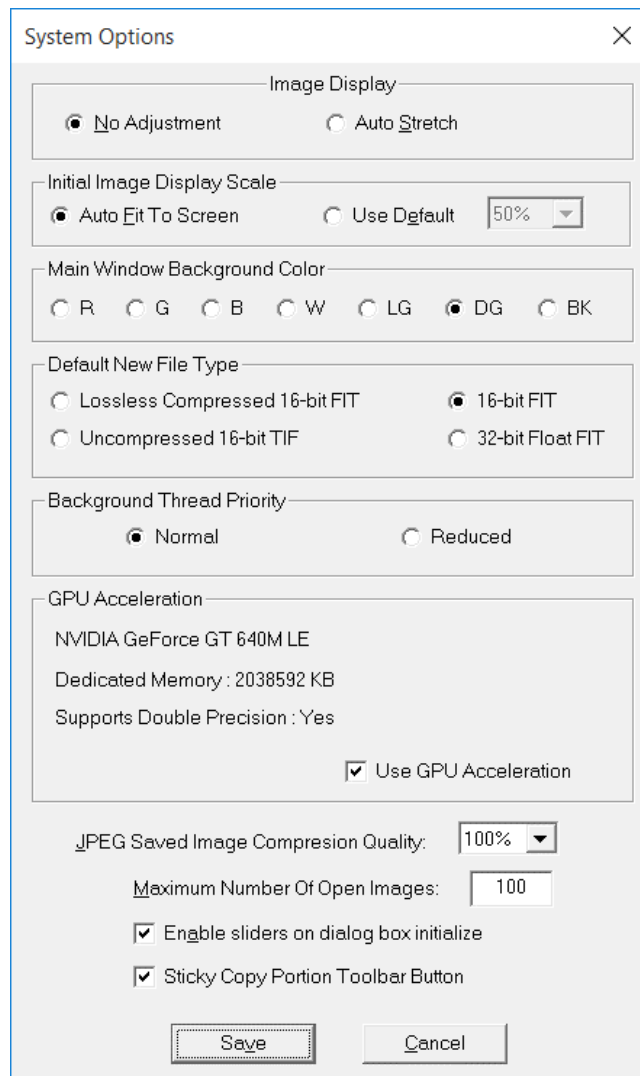
The System Options commands control the behavior of ImagesPlus when an image or operator dialog box is opened.

Control Summary

Image Display

No Adjustment The image is displayed without any contrast stretching.

Auto Stretch Applies an automatic General Stretch Function command for brightness adjustment when the image is displayed. The Undo command can be used to display the

original image.

Initial Image Display Scale

Auto Fit To Screen The image size is compared to the screen resolution and the image is scaled to fit the screen size.

Use Default Each image is scaled to the selected percentage when it is opened.

Main Window Background Color   Sets the color of the main window's background.

Default New File Type

Defines the color and monochrome file format that is used when a new image file is created by the Combine Files, Combine Images, Mosaic, Image Math, Combine LRGB, Combine Bayer CFA, Bayer CFA Interpolate, Split Luminance, Split Colors, and Split Bayer CFA commands. Commands that duplicate an image create a new image with the same format as the original duplicated image and do not use this default type.

Lossless Compressed 16-bit FIT A lossless compressed FIT image is created with 16-bits per pixel per color.

16-bit FIT An uncompressed FIT image is created with 16-bits per pixel per color.

Lossless Compressed 32-bit Float FIT A lossless compressed FIT image is created with 32-bits per pixel per color.

32-bit Float FIT An uncompressed FIT image is created with 32-bits per pixel per color..

Uncompressed 16-bit TIF An uncompressed color TIFimage is created with 16-bits per pixel per color.

Background Thread Priority

Defines the priority that backgound commands run at. Background commands in ImagesPlus are all commands with a Cancel button. For example, commands such as Auto Image Set Process , Video File Display and Process , Canon Raw Conversion , Calibrate Files , Bayer CFA Interpolate File , Align TSR , Combine Files, and Adaptive Richardson-Lucy Restoration are some of the background processes in ImagesPlus.

Normal The default value is normal priority and background threads will run at the same priority as the main ImagesPlus window

Reduced Reduced priority is used if you want the background thread to run slower when the

main ImagesPlus window is minimized and another application is being used.

Use GPU Acceleration: GPU acceleration of some operations such as Gaussian blur can be enabled if DirectX 11.0 or newer and a compatible video card such as Nvidia are available.

JPEG Compression Quality: The compression quality when an image is saved in the JPEG format. A value of 100% is the best image quality and least compression. A value of 0% is the lowest image quality and largest compression.

Maximum Number Of Open Images: Sets an upper bound on the total number of open images. The default value is 100.

Enable sliders on dialog box initialize If this box is checked then the enable slider option will be enabled when a dialog box is first opened.

Save: Saves the system options and closes the dialog box.

Cancel: Cancels any changes and closes the System Options dialog box.

Arcsecond Per Pixel Setup

This command is used to define a camera chip size, number of pixels, and optical system so that arcseconds per pixel can be calculated when using the Star Shape tool. Focal length, chip size, and pixel size are all entered in mm. A camera's chip size and number of pixels for a given image format can be found in the camera manual.

Control Summary

Add: Add a new camera optic system combination to the arcsecond per pixel setup window.

Edit: Change an existing arcsecond per pixel setup. Left-click on an element in the Optics column to select it then press the Edit button. You can also double-click on an element in the Optics column to edit.

Delete: Left-click on an element in the Optics column to select it then press the Delete button.

Save: Saves all changes made to the arcsecond per pixel setup window.

Cancel: Cancels all changes made to the arcsecond per pixel setup window.

Exit

The Exit command close ImagesPlus.

The File menu includes the following additional options when an image is open in ImagesPlus.

Close Lock

Locks the current active image so that it cannot be closed. For example, after a group of images have been aligned and combined, close lock the combination image and then use **File | Close All Images** to close the group leaving the combination image open for further processing. This is a lot faster than closing each image separately. Close Lock ✕ is also available on the top horizontal toolbar.

Close Lock All

Locks all open images so that they cannot be closed. See Close Lock for an example.

Close Unlock

Unlocks the current open image so that it can be closed. See Close Lock for an example. Close Unlock ✕ is also available on the top horizontal toolbar.

Close Unlock All

Unlocks all open images so that they can be closed. See Close Lock for an example.

Close Image

This command closes the current active image.

Close All images

This command closes all open images.

Close All Operators

This command closes all open operator dialog boxes.

Save

The Save command saves the current active image with the name displayed in the image window caption bar. The System Options command can be used to change the compression quality of a JPEG image.
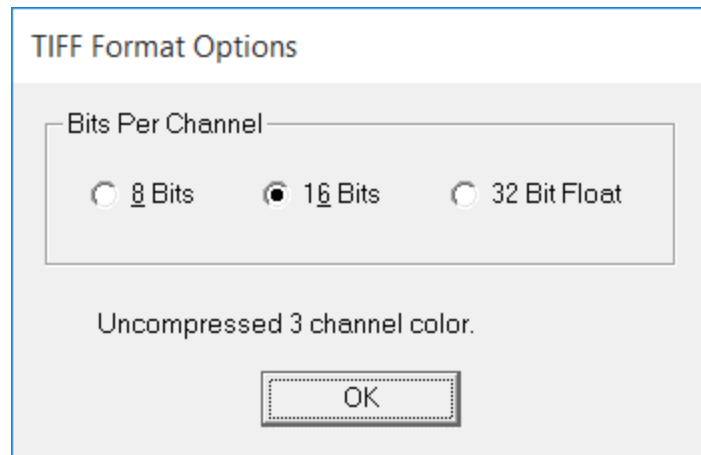
Save Copy As
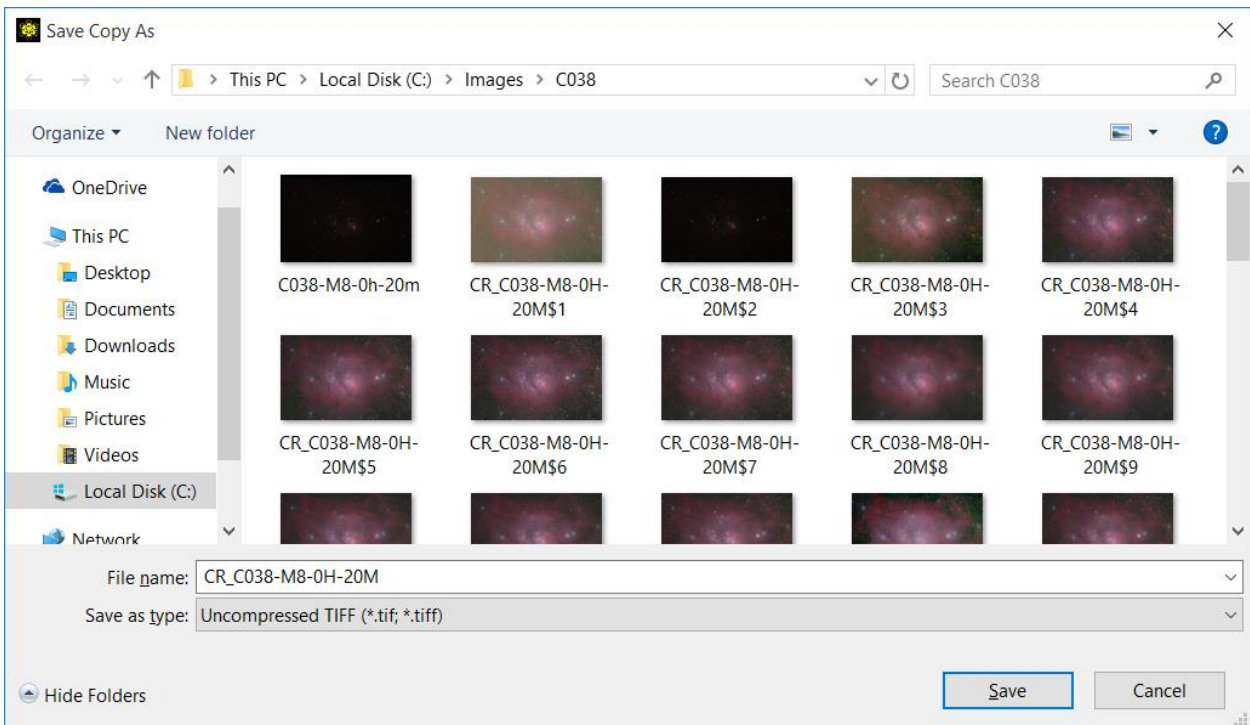
The Save Copy As command saves the current active image using a different name or format. To change the format of an image, select a different format from the Save as type combo box. The current image is not renamed to the new name but the last name used with Save Copy As is displayed in the Last Save Copy As Name box on the current image Process History window.

The System Options command can be used to change the compression quality of a JPEG image.
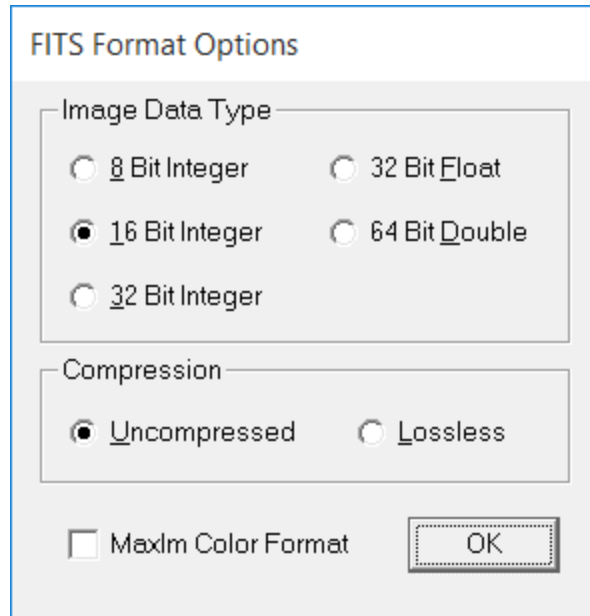
A FITS image can be saved as 8, 16, or 32-bit integer, 32-bit float, or 64 bit double format. The 16-bit integer format is the most common FITS format.

A TIFF image can be saved as an uncompressed monochrome or color image with 8, 16, or 32 bit depth per pixel.

Save All

The Save All command saves every open image. This command applied Save to every open image.

Save Copy With History As...

Saves the current image with a new name and type and also saves the processing history list

as a text file with the new name. The current image is not renamed to the new name but the last name used with Save Copy As With History is displayed in the Last Save Copy As Name box on the current image Process History window.

A complete history of the intermediate images, filters, and masks applied to an image can be saved as a project file using the Process History window. A project file can be used to restore the command and mask sequence applied to an image using the Load Project command.

View Menu

Toolbars

Standard
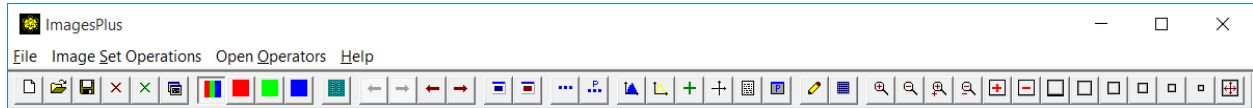
The top horizontal toolbar is called the Standard toolbar has buttons that allow quick access to frequently used commands. A brief description of each function is displayed when the mouse hovers over a button.

The Standard toolbar can be docked to the main window or floating. The View menu Toolbar command can be used to hide or display the Standard toolbar.

The Standard toolbar has the following buttons:

🗋 Activates the New Color Image dialog box.

📂 Activates the Open Image dialog box.

💾 Saves the current image.

✕ Close Lock the current image.

✕ Close Unlock the current image.

🖼 Close All Images closes all open unlocked images.

The following color channel selection buttons apply only to a color image and have no effect on a monochrome image. If a command has its own color channel selection controls then they override these buttons. For example, these selection buttons have no effect when using Additive Balance.

🟥🟩🟦 Depress to apply a command to each color channel of an image.

🟥 Depress to apply a command to only the red channel of an image.

🟩 Depress to apply a command to only the green channel of an image.

🟦 Depress to apply a command to only the blue channel of an image.

▦ Depress to enable copy a portion of an image. If enabled left-click and drag a rectangle on an image to create a separate sub-image.

← Undo the last image processing command.

→ Redo the last image processing command.

← Undo the last command for each open image.

→ Redo the last command for each open image.

■ Sets the displayed image and allows the same command to applied with different parameters.

■ Sets all displayed images and allows the same command to applied with different parameters.

⋯ Duplicates the current image in size and scale. The Process History list is also duplicated.

⋮ Duplicates the current image at 25% of its original size. This smaller image window can then be used to quickly adjust filter parameters. Once the correct parameters are found they can be applied to the original larger image. A preview image can also be created using a selected area of the original image using the Copy A Portion Of An Image ▦ toolbar button..

▲ Activates the Histogram window.

▲ Activates the Line Profile window.

✚ Activates the Cross-Hair window.

✛ Activates the Star Shape window.

▦ Activates the Process History window.

P Activates the Image Properties window.

✎ Activates the Edit Pixel Color dialog box.

▦ Activates the Edit Pixel Intensity dialog box.

🔍 Zooms the active image in by the zoom increment amount.

🔍 Zooms the active image out by the zoom increment amount.

🔍 Zooms all images in by the zoom increment amount.

🔍 Zooms all images out by the zoom increment amount.

➕ Add 100% to the zoom percent of the current image.

➖ Subtract 100% from the zoom percent of the current image.

▢ Zoom current image to 1600% display.

▢ Zoom current image to 800% display.

▢ Zoom current image to 400% display.

▢ Zoom current image to 100% display.

▫ Zoom current image to 50% display.

▫ Zoom current image to 20% display.

⊕ Set the zoom percent of the current image so that the entire image is displayed.

The left vertical toolbar contains mask tools and geometric functions. A detailed description of the mask and geometric toolbar can be found in the [Layers, Blend Modes, Opacity & Masks](#) and [Making & Using Masks](#) chapters of the ImagesPlus user manual.

Process History
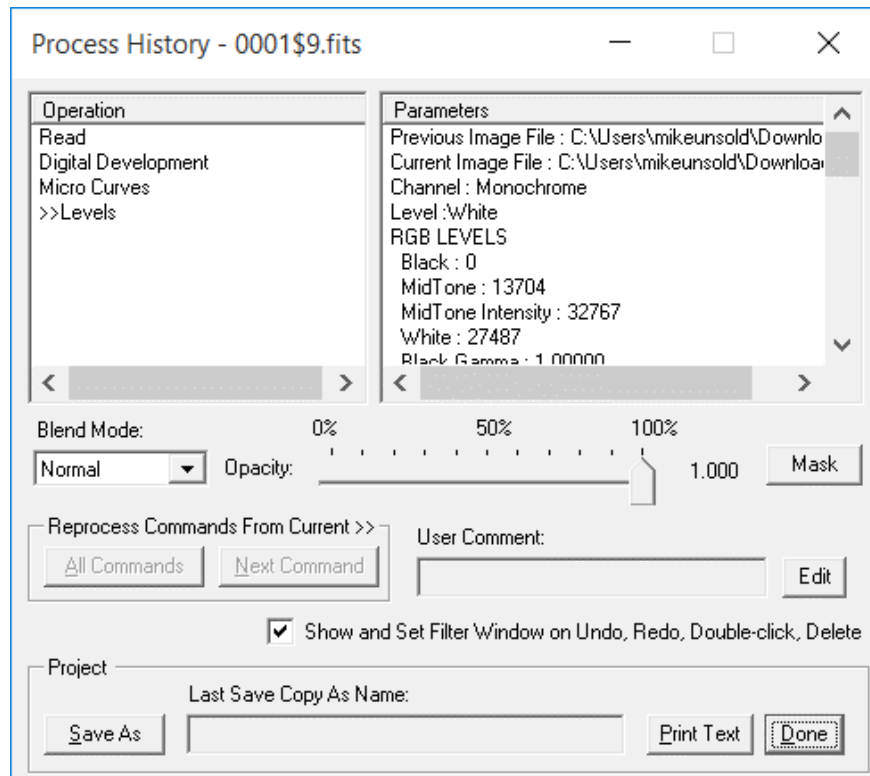
The Process History window is used to track image processing operations that have been applied to an image. The Operation window lists the type of image processing performed and the Parameters window displays the parameter settings used with the command. The Undo ← and Redo → toolbar buttons can be used to browse through the commands applied to an image sequentially and also display the state of the image after the command was applied. You can double-click on a command in the Operation window to display the command and image at the selected step.

The Process History window can also be viewed as image layers each with its own blend mode, opacity, and mask. Each filter applied to the image is a layer that is combined with the previous version of the image using a blend mode and opacity. A mask is assigned to a filter using the Mask button on Process History. See Mask Surface below for a description of using a mask with a filter.

The sequence of commands can be modified in several ways.

1) Double-click on a command or use the Undo and Redo toolbar buttons to position the current command pointer >> to the command that you want to modify. The command with parameters and image state will be displayed. Adjust the command parameters to modify the image and automatically save the new parameters. If the current command has commands listed after it then the later commands will need to be reapplied. Press the Next Command button to reapply the next command. The Process History Operation window text will turn red with a ~ before a command to indicate that it needs

to be reapplied to the image.

For example, the above Process History window shows Read followed by Digital Development, Micro Curve, and Levels applied to an image. The current command pointer >> was repositioned on Digital Development by a double-click on Digital Development in the Operation window. Digital Development's parameters were adjusted. This changed the state of the image so Micro Curve and Levels both need to be reapplied. To reapply Micro Curve the Next Command button was pressed. Now the Process History window appears as follows.
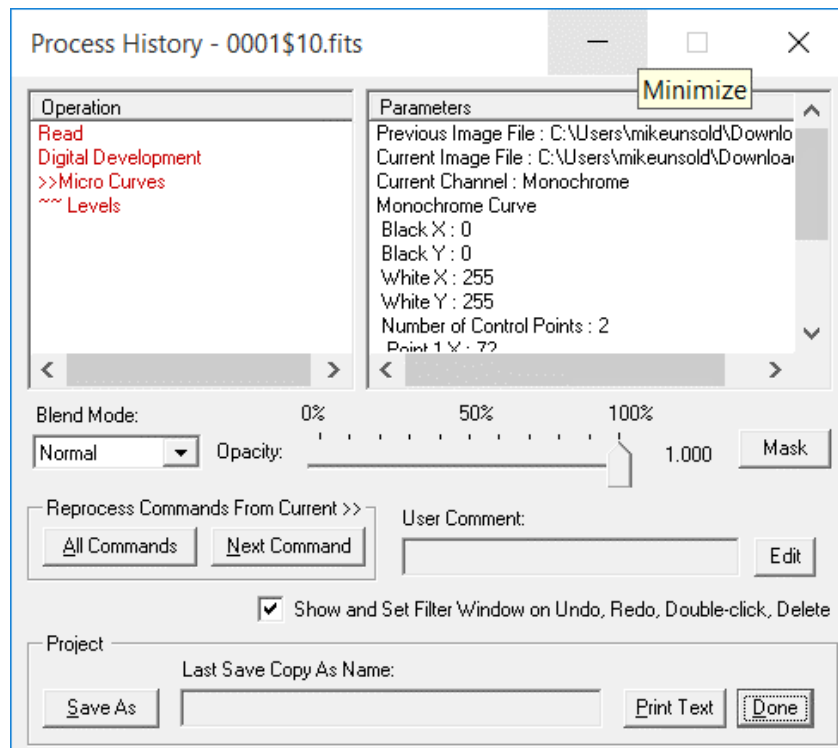
The red text and ~ before Levels indicate that Levels still needs to be reapplied to have a complete and consistent sequence of image states that match the command sequence. The Next Command button is pressed again to reapply Levels. The text is now black.

The All Commands button can be used to automatically apply all commands that follow the current command pointer >>.

2) A new command can be inserted into the command sequence. First position the current command pointer >> to the command that you want to insert the new command after. Now apply the new command to the image. The new command will be inserted after the current command pointer >>. The Next command or All Commands button will need to be used to reapply all of the commands after the inserted command.

3) Commands can be copied and deleted from the Operation list of the same image or between different images. First use the mouse to select the commands from the Operation window. Right-click on the selected commands then choose Cut, Copy, or Delete. If you want to paste the copied commands after a command then right-click on

the command and choose Paste. The copied commands can also be applied to a different image by selecting the image with the mouse then paste the commands into the Operation list of the active image. The Next command or All Commands button will need to be used to reapply all of the commands after the inserted command.

<u>Saving an Image, Commands, Masks, Intermediate Images, & Text File Version of Commands</u>

When an existing image is opened using the Open command or created and then opened by using Combine Files, Combine Images, New Color Image, Copy a Portion of an Image, Duplicate an Image at 25%, Image Math, Split Color, Split Luminance, Auto Color Combine, or Combine LRGB , the image becomes the start or *initial image* of a command sequence that is tracked by the process history window. The first entry in the Operation window is either a read of an existing image or one of the operations that created and displayed the new image. If you double-click on this first entry in the Operation window the Parameters window will display the name and path to the initial image.

As enhancement filters are applied to the initial image the result is displayed and also saved as an intermediate image file in the **same** directory as the initial image. This is true even if you change the current directory using Open, Save Copy As, Save Copy As With History, or any of the commands that specify an output directory. The intermediate images are saved with $<integer> appended to the initial image name. For example, if the initial image name is M27.tif then the intermediate files would be saved as M27$1.tif, M27$2.tif as you apply enhancement filters. **Again the intermediate files are always saved in the same directory as the initial image.**

The intermediate files will be automatically deleted when the initial image is closed or when ImagesPlus is closed if the initial image has been duplicated using the ⠿ toolbar button. The duplicate ⠿ toolbar button is the same as Duplicate image To Scale and Duplicate Image @ 100% on the View menu. To save the initial image and intermediate images a few simple rules need to be learned.
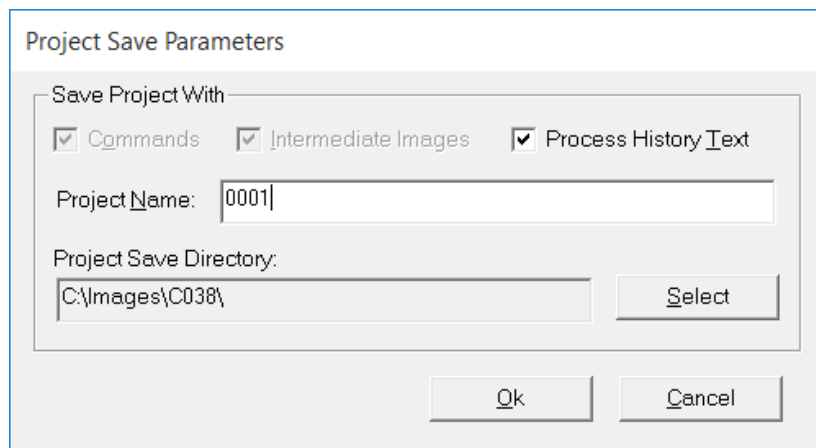
1) If the initial image already exists and you use Open to display it then Save should only be used to change the initial image stored on your hard drive. This is not a common occurrence. Save Copy As, Save Copy With History As, or the Save As button on this control is most often used to save a copy of the current displayed image with a different name and possibly different image format. Note that the name displayed in the image window caption bar does not change to the save copy as name but always remains the initial image name. This is because the initial image is the beginning of a command sequence and is used to identify the sequence. The save copy as name is displayed by the Last Save Copy As Name box on this control.

2) If the initial image was created and displayed by one of the commands above then it is considered a temporary intermediate file. Note that this type of initial file is temporarily saved and will be delete when it is closed or when ImagesPlus is closed, in the case of duplication, if it is not saved using Save or the Save As button on this control. Let's look at when each command is used to make the newly created initial file permanent. Save can be used after the initial image is created but before any filters are applied to make the initial image permanent. Otherwise the Save As button on this control should be

used.

3) The intermediate files are always saved in the same directory as the initial image. It is entirely practical to just forget about the intermediate images and allow them to support unlimited undo and redo and just be deleted automatically. But if you want to save the intermediate files use the Save As button on this control with Intermediate Images checked. If the intermediate images are not saved then they will be automatically deleted when the initial image is closed or when ImagesPlus is closed if they have been used by a duplicate image.

A pointer to the current displayed image, sequence of commands, and pointers to associated intermediate images can be saved in a project file using the Save As button on this command. First a Save Copy As dialog box is displayed to allow the current displayed image to be saved by a different name and type. You can use the initial image name but this choice will replace the contents of the initial image with the current displayed image. In general a new descriptive name is recommended.

Next the Project Save Parameters dialog box is displayed.

If the Project Save Directory is not changed then the initial image will be made permanent if it is not already. The intermediate image files will also be made permanent in the same directory as the initial image. The process history text file will also be saved in the same directory.

If the Project Save Directory is changed to a different directory then the initial image directory then following occurs.

1) The initial image and intermediate images are copied to the new project directory and saved.

2) The process history text file is saved in the new directory.

3) If the initial image in the original directory was newly created and not saved using Save or Save Copy As then it will be deleted. This is because you copied the initial and

intermediate images to the new project save directory.

Commands: Saves the sequence of commands and parameters in a project file with an extension of .IPJ.

I**ntermediate Images:** Saves all of the intermediate images that were created by applying different filters to the original image.

Both Commands and Intermediate images need to be saved if you want to completely restore the command sequence at a later time.

Process History Text: Saves a text file version of the commands and parameters.

Loading Project Files And Using Filter Commands With Filter Files

A project file is loaded using the Load Project command.

The Filter Files command can be used to apply commands from the current open image or project file to a set of images.

Detailed instructions for using the Process History layers window can be found at [Layers, Blend Modes, Opacity & Masks](#), [Making & Using Masks](#), and the many tutorials at the [ImagesPlus tutorials page.](#)

▦ Activates the Process History dialog box from the top horizontal toolbar.

Control Summary

Operation: This window lists the filters in the order that they are applied to an image. The current command pointer >> shows the current command and the state of the image after the command was applied to the image. Double-click on a command or use the Undo and Redo toolbar buttons to browse through the commands and associated image state.

Parameters: This window displays the filter parameters of the current filter pointed to by >> in the Operation window.

Last Save Copy As Name: This is the name last used to save the image using Save Copy As, Save Copy with History As, or the Save As button on this control window.

User Comment: This box displays a user enter comment that can be used to describe the current image processing or version. The comment is saved in the process history text file. To change or display the full comment press the Edit button.

Reprocess Commands From Current >>

All Commands: Press this button to automatically apply all commands the follow the current

command pointer >>.

Next Command: Press this button to automatically apply only the next command after the current command pointer >>.

Project

Save As: Press this button to save the current displayed image with a different name and type. The Project Save Parameters dialog box shown above is displayed.

Print Text: Prints a text version of the Process History list.

Done: Choose this button to close the Process History window.

Mask Surface Window

Detailed instructions for using the Process History layers and mask windows can be found at [Layers, Blend Modes, Opacity & Masks](#), [Making & Using Masks](#), and the many tutorials at the [ImagesPlus tutorials page.](#)

Blend Mode: Blend mode assigned to the current filter. The default blend mode is normal or replace the previous image 100% with the current filtered image.

Opacity: Opacity assigned to the current image. If opacity is 0.0 or 1.0 then the current filter has no effect or full effect, respectively. Opacity between 0.0 and 1.0 blend the previous image with the current filtered image.

Mask: The Mask button is used to display the mask assigned to the current filter. A mask can be either a control point mask or image mask.

Control Point Mask
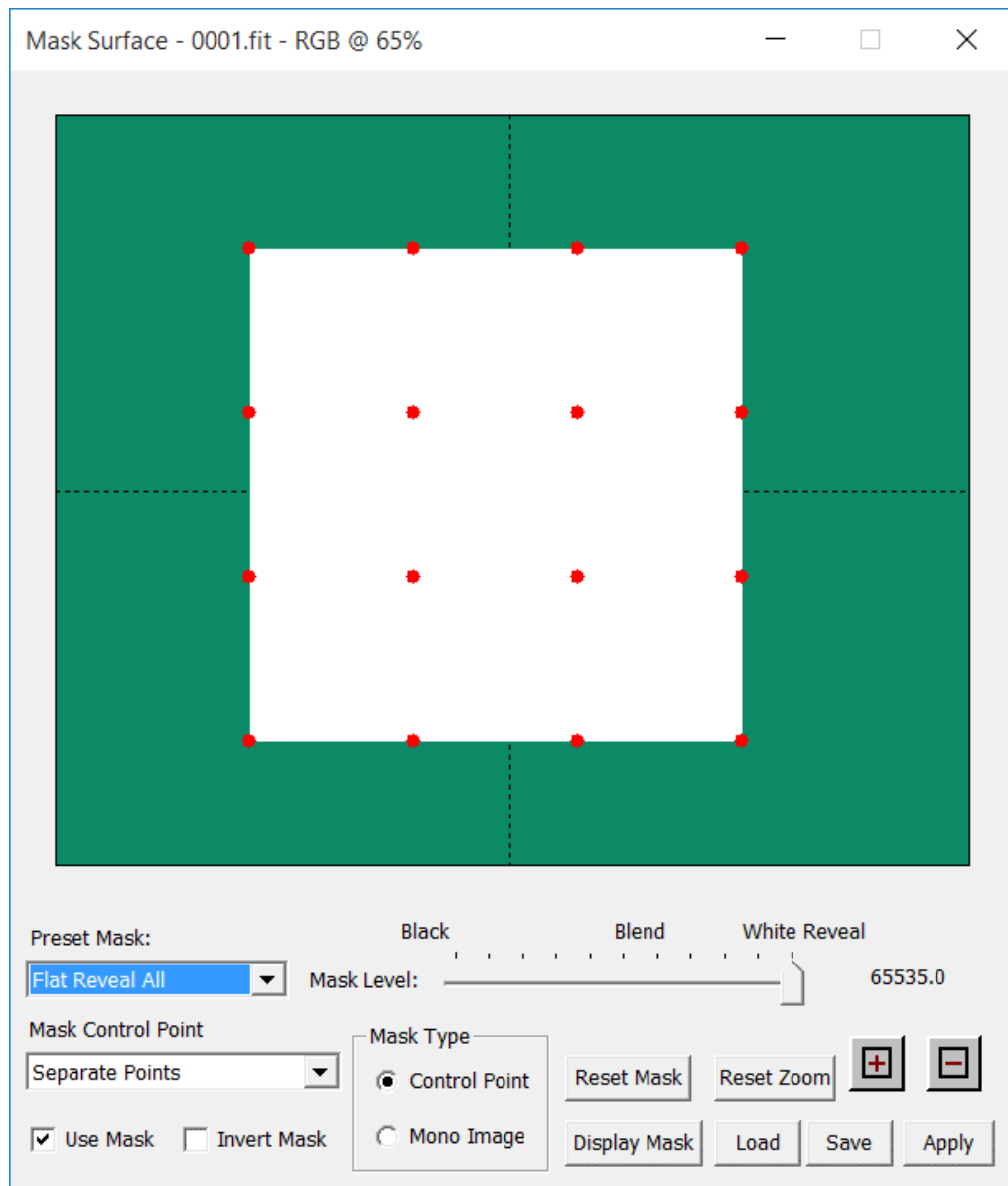
A control point mask uses 16 red control points to define the mask similar to the way control points define the shape of the standard curves tool. Left click on a red control point and move up or down to make the mask lighter or darker. Shift + left click on a red control dot to move the control dot horizontal or vertical.

Preset Mask: Sets the red control points to preset mask shapes.

Mask Control Point Groups: Allows red control points to be moved separate or in predefined groups.

Mask Level: Adjust the brightness of the mask.

Invert Mask: Inverts the control point mask.

Zoom + -: Zooms the control point mask surface in or out.

Reset Zoom: Sets the default all white reveal all control point mask.

Image Mask

Image masks are single channel monochrome images the same size and width of the image they are applied to. Image masks are usually created from the image they are applied to by using luminance, smoothing, high pass, threshold, edge filters, or painting tools.

Use Mask: If checked the control point or image mask is used to control the filter.

Reset Mask: Sets the Mask Surface window to the default all white control point mask.

Display Mask: Display the control point mask or image mask for modification.

Load: Loads an image or control point mask from a file.

Save: Saves a control point or image mask in a file.

Apply: Applies the current mask and filter to the active image.

Image Properties
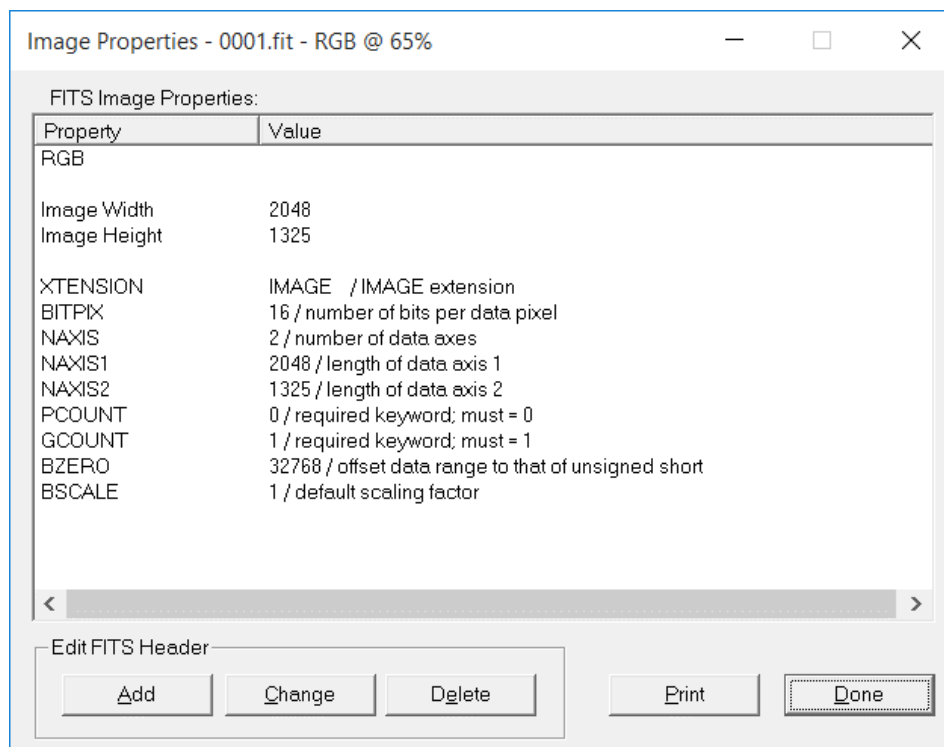
The Image Properties window displays header information associated with the different file formats and image states supported by *Images*Plus. Image properties can be printed using the **Print** button. FITS image keys can be edited using the **Add**, **Change**, and **Delete** buttons. Select the key to edit from the Property column using the mouse and then press an edit button.

The different states that an image can be in while loaded into *Images*Plus are as follows:

1) The color channel type describes the color data stored by the image. It can have one of the following values: RGB, red, green, blue, cyan, magenta, yellow, gray, hue, saturation, luminance. The Interpret-Mix Colors command is used to change the color type.

2) Image Math target: Displayed if the image has been selected as the target or output image for the Image Math commands.

3) Image Math source: Displayed if the image has been selected as the source or second input image for the Image Math commands.

4) Combine Images target: Displayed if the image has been selected as the target of a Paste operation of the Combine Images command.

5) Combine Images source: Displayed if the image has been selected as a source for the Paste operation of the Combine Images command.

6) Combine Channels source: Displayed if the image has been selected as a source for the Combine Channels command.

7) Combine Channels target: Displayed if the image has been selected as the target of the Combine Channels command.

8) Combine Bayer CFA source: Displayed if the image has been selected as a source for the Combine Bayer CFA command.

9) Combine Bayer CFA target: Displayed if the image has been selected as the target of the Combine Bayer CFA command.
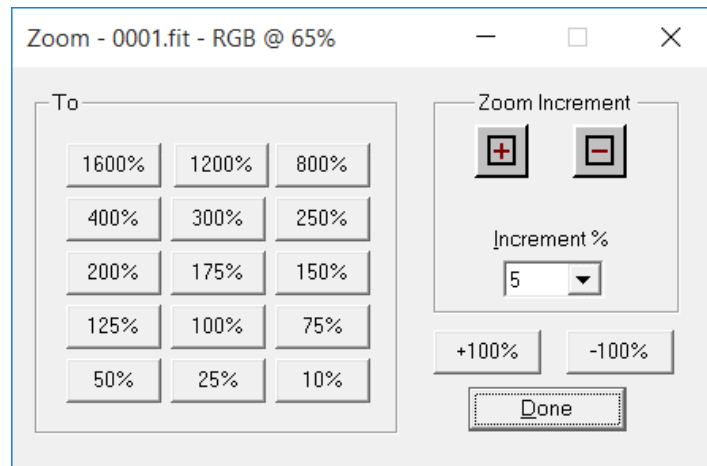
10) Time Sequence source: Displayed if the image has been selected as a source for the Time Sequence command.

[P] Activates the Image Properties dialog box from the top horizontal toolbar.

Control Summary

Done: Choose this button to close the Image Properties window.

Zoom

The Zoom commands changes the display of an image to the percentage that you select and also sets the zoom increment value that is used by the Zoom In and Zoom Out commands.

Control Summary

Increment %: The percentage that is added to the current image scale.

Increase or decrease the size of the current active image by the current zoom increment amount.

Done: Choose this button to close the Zoom dialog box.

Zoom All In

This command will enlarge the display of all open images by the scale increment defined by the Zoom command. The image dimensions are not changed. This command can also be activated from the top horizontal toolbar.

Zoom All Out

This command will shrink the display of all open images by the scale increment defined by the Zoom command. The image dimensions are not changed. This command can also be activated from the top horizontal toolbar.

Duplicate Image

This command will make a duplicate of the current active image scaled to the percentage that you choose. It changes the dimensions of the image.

Duplicate Image to Scale

This command duplicates the current active image at 100% of its original size and displays it using the same scaling factor as the original image. The dimensions of the new image are the same as the original image. This command can also be activated from the Standard toolbar.

Set View

The Set View Command is used to save the current displayed image and allow the same command to applied in a row with a different set of parameters. Set View is automatically applied as different filters are applied to an image.

The standard toolbar button can also be used to set the current displayed image.

Open Images Menu

Cascade

Cascade arranges all images in a step-like pattern.

Minimize Images

The Minimize Images command minimizes all open images.

Restore Images

The Restore Images command restores each image to its size and position prior to minimization.

Stack Images

This command is used to place all open images at the same screen location. The arrow keys can be used to move the images as a group.

Other keyboard commands that can be used to help manage image windows are:

T = Tile images

I = Cascade Images

O = Cascade operators

S = stack images

C = close all images (Only if the main IP window has input focus)

M = set focus to the main window if the matrix of thumbnails covers everything and one of the thumbnail images has the focus. If the main window has focus then Alt F, Alt E, ... will display the main menus.

The keyboard arrow keys can be used to scroll all open images if the main IP window is highlighted so it has input focus.

Tile Images

This command will tile the current open images. The arrow keys can be used to move the tiled matrix of images as a group.

Other keyboard commands that can be used to help manage image windows are:

T = Tile images

I = Cascade Images

O = Cascade operators

S = stack images

C = close all images (Only if the main IP window has input focus)

M = set focus to the main window if the matrix of thumbnails covers everything and one of the thumbnail images has the focus. If the main window has focus then Alt F, Alt E, ... will display the main menus.

The keyboard arrow keys can be used to scroll all open images if the main IP window is highlighted so it has input focus.

Open Operators Menu

Cascade Operators

Cascade arranges all image processing dialog boxes in a step-like pattern.

Minimize Operators

Most operators allow the command window to be minimized. The Minimize Operators command minimizes all open operator windows.

Restore Operators

Most operators allow the command window to be minimized. The Restore Operators command restores each operator to its size and position prior to minimization.

Open Operators

Displays the names of all open image processing dialog boxes. You can activate a particular operator dialog box by clicking its name with the mouse.
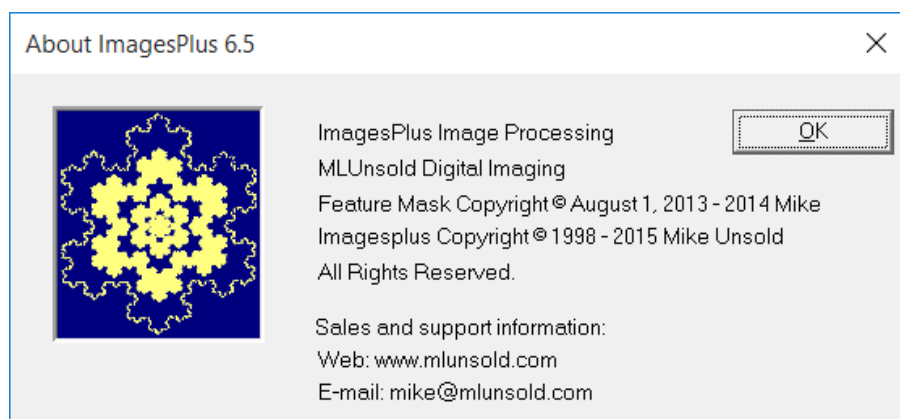
Help Menu

Help Topics
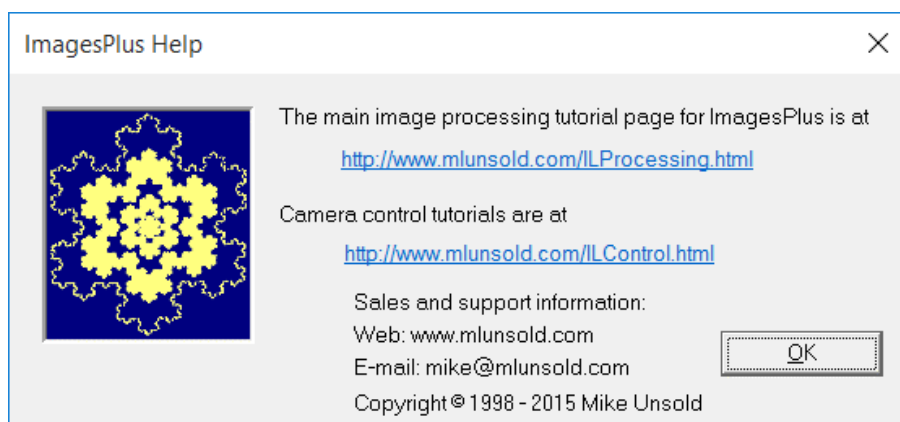
Help Topics displays links to the ImagesPlus image processing user manual and camera control tutorials.

Help About

The Help About command displays the *ImagesPlus* program version number and support information.