



GamSat

Adobe Photoshop* PC Plug-In

User's Manual

Release 1.02

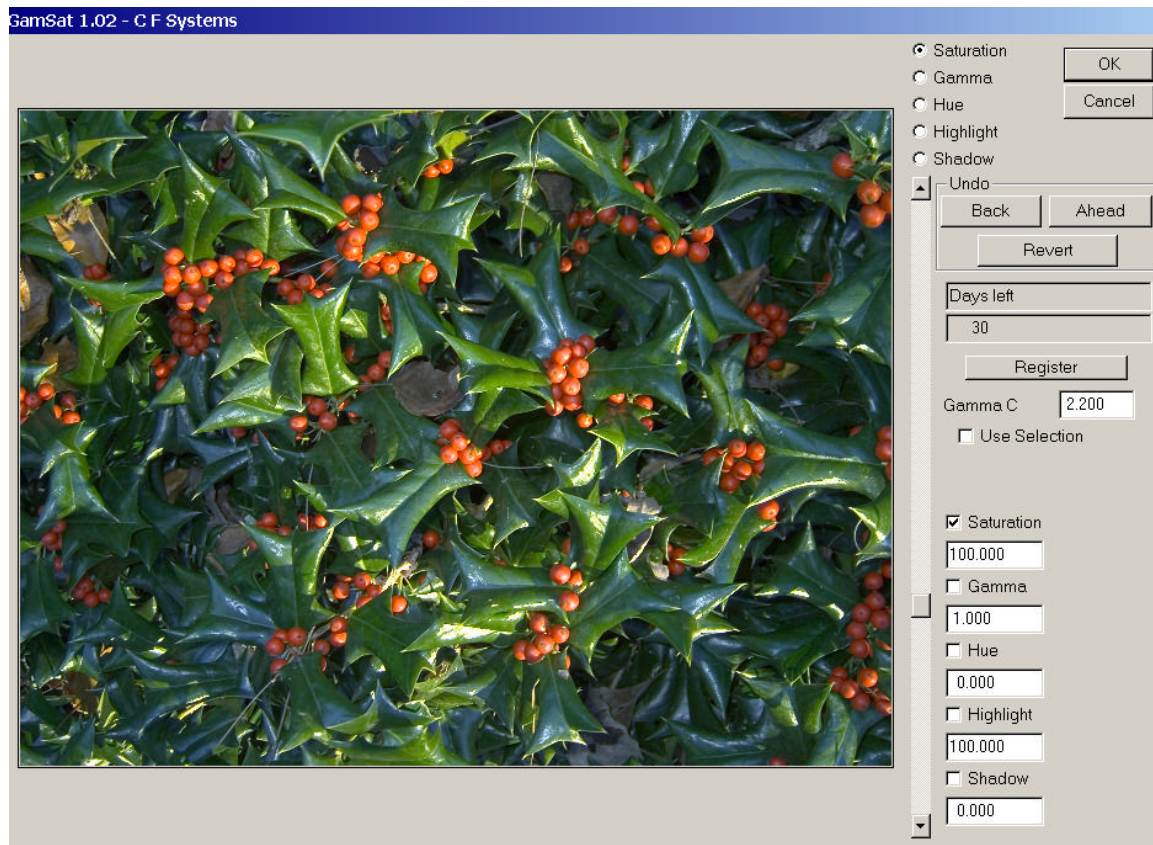
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Fast Track

First, install the GamSat.8bf file in the Photoshop filters folder (for more detail see Installation). **GamSat** is intended for use with unaltered images and is generally much less effective on an image that has already been "corrected" in Photoshop.



We recommend using our **ColorPos** or **ColorNeg** plug-ins to get a good starting image that has color integrity before using **GamSat**. Images from those sources will already be in 16-Bit/Channel RGB color format, which **GamSat** requires. If you start with an 8-

Bit/Channel image, it will have to be converted (Image Mode 16-Bits/Channel) before **GamSat** can be used (more about the best way to do that below). Then start the C F Systems Filter **GamSat** (for more detail see Using GamSat). You should see something similar to the large dialog box shown above.

At this point you can try the controls. The scrollbar individually adjusts saturation, gamma, hue, highlight, and shadow. Which control the scrollbar adjusts is set by the radio buttons above the scrollbar or by clicking in the appropriate value box. The checkbox above each value box controls whether the corresponding adjustment is actually used, so its primary function is to allow seeing the preview image with and without the change. When you check a value on, it will also change scrollbar control to that value.

Although these adjustments all represent departures from true color integrity, the adjustments will be made while preserving color integrity insofar as that is possible, resulting in enhanced images that have a more natural look than if the adjustments were done by typical methods. For an idea of what this means, see how the image has changed with the adjustments shown in the dialog box below.

The action of **GamSat** is slow compared with our other plug-ins, but we have managed to speed up version 1.02 to that it typically takes less than 1/5th the time of version 1.00. You still may have to wait a little to see a change reflected in the preview image, and large image files still take longer than **ColorPos** or **ColorNeg** to do the final conversion when you click OK to return to Photoshop.

The demonstration version of **GamSat**, which can be converted to a paid version, expires in 30 days after first use. (See below and ReadMe.txt for details.) To obtain the paid version of **GamSat**, purchase a key for the **ColorNeg** group for PC or the **ColorNeg** group for Mac. The key that you receive will also work with two other plug-ins, **ColorNeg** and **ColorPos**. If you already have a key purchased for use with any of those plug-ins, that key will work with **GamSat**. PC and Mac versions do require a separate key, however.

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Introduction

C F Systems **GamSat** is a Photoshop filter plug-in that is intended to operate on positive images output from our **ColorNeg** and **ColorPos** plug-ins. It is used to make adjustments to the saturation, gamma, hue, highlight, and/or shadow of a color image to enhance its appearance without unnecessarily damaging its color integrity. The importance of color integrity and how it is easily lost while doing commonly recommended Photoshop adjustments is explained in <http://www.c-f-systems.com/ColorIntegrity.html> and in mathematical terms in *Color Integrity CFS-243* available at <http://www.c-f-systems.com/PhotoMathDocs.html>. These adjustments are typically done incorrectly in Photoshop.

Version 1.02 of **GamSat** is available for both PC and Mac.

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Installation

We have not provided an installation program, but have taken the same approach as Adobe has in distributing "RAW" conversion plug-in revisions. You have downloaded a zip file which contains this PDF manual, a ReadMe.txt file and a file GamSat.8bf. All that needs to happen is the GamSat.8bf file needs to be put in the Photoshop filters folder. For an all-default installation, that folder will be

C:\Program Files\Adobe\Photoshop x\Plug-Ins\Filters

where "Photoshop x" specifies the version of Photoshop. If your installation is not the default, you probably already know how to find the corresponding filters folder on your system. If you are unable to find the folder we suggest using the Windows "find files or folders" to locate it. Find files or Search is on the Start menu, and a search for file names of "*.8bf" should locate the folder. The Filters folder should have a number of other files with 8bf extension already in it. Once the GamSat.8bf file has been placed in the folder, Photoshop will automatically configure for **GamSat** the next time it is started.

Using GamSat

GamSat is intended to operate on positive images output from our **ColorNeg** and **ColorPos** plug-ins. The output from those plug-ins is already in the correct form. When not using those plug-ins, the requirement is that the working file *must* be in 16-Bits/Channel RGB mode (scanners which scan at 12-Bits/Channel and produce a 16-Bits/Channel file are fine). Most scanners deliver positive scans as "gamma-corrected" images by default. **GamSat** is intended to operate on gamma-corrected images. This correction gamma ("Gamma C") is nearly always 2.20. If this is not the case, you will be aware of it and you should set Gamma C in **GamSat** appropriately. Most users should studiously avoid changing Gamma C.

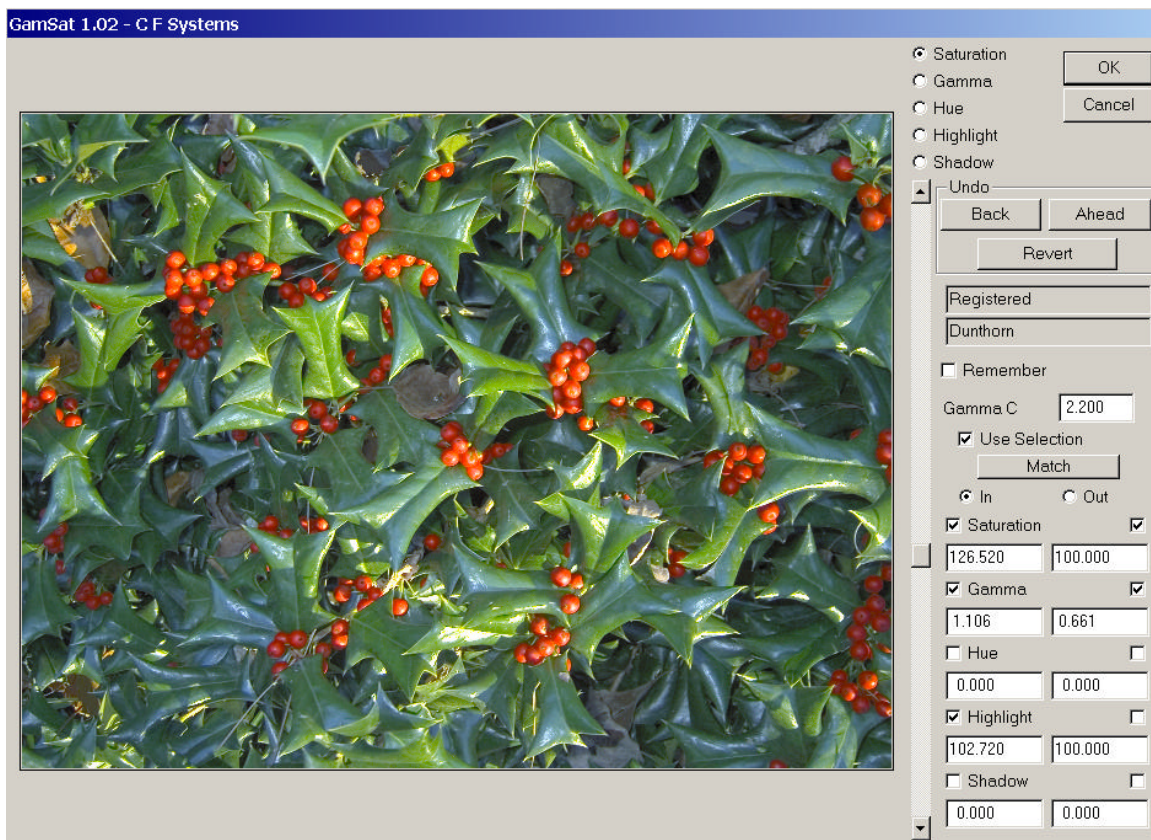
If the image cannot be obtained in 16-Bits/Channel mode, it is permissible to convert an 8-Bit/Channel image to 16-Bits/Channel using Image Mode 16-Bits/Channel. If you must convert an 8-bit image, there are several rules which will lead to better results if they are followed. If you plan to use Image Image Size to *increase* the number of pixels in the image, do so *after* converting to 16 Bits/Channel and *before* using **GamSat**. Also, if you plan to use sharpening filter treatments and you do *not* plan to increase the pixel count, do some or all of the sharpening *after* converting to 16 Bits/Channel and *before* using **GamSat**.

With the window with the working image active, use the Photoshop Filter menu: Filter→C F Systems→GamSat. The C F Systems entry should be near the bottom of the Filter menu. A window will appear that looks like the one shown above in **Fast Track**, where the first try at your positive image will replace the holly image in the above. At this point you can try the controls. The scrollbar will adjust saturation, gamma, hue, highlight, and shadow individually. The radio buttons above the scrollbar show which property the scrollbar controls. This can be changed either using the radio buttons or by clicking in the appropriate value box.

Values can also be directly entered into the appropriate box. Saturation can vary from 0 to 400, with 100 being normal; unchanged. Gamma can vary from 0.1 to 9.9 with 1.0 being normal (unchanged). Hue can vary from -89.9 to 89.9 with 0.0 being normal. Highlight can vary from 50 to 150 with 100 being normal. Shadow can vary from -25 to 25 with 0 being normal. The checkboxes above each of the value boxes indicates whether the value is to be used in forming the image, and affect both the preview and final images. The primary intent of these checkboxes is to allow easy comparison of a proposed change with the original image.

Adjusted Image

The dialog box below shows an adjusted version of the same image shown in the initial dialog box, above. The initial image of holly leaves and berries was taken under normal outdoor conditions and while the lighting was natural, it was also somewhat harsh. In the adjusted image the colors still retain their natural appearance but the harshness of the lighting has been reduced and the resulting image is more suitable for many applications. Note the other differences between the two dialogs. The second dialog has been registered, showing the Remember checkbox in place of the Register button, as explained later. The second dialog also shows the use of selections:



Selections

Version 1.02 introduces the use of feathered selections in **GamSat**. The Use Selection checkbox regulates whether selections will be used or ignored. If no selection has been made before calling **GamSat**, it will not be possible to check this box. When the box is checked the existing value boxes apply to the areas inside the selection and a new set of value boxes appear for the areas outside the selection. Radio buttons also appear, showing whether In or Out of selection is currently controlled by the scrollbar. Initially, both inside and outside take the same values, but now they can be individually adjusted. The Match button adds the capability of matching the settings for the inside and outside areas at any time. When Match is pressed, if In has been selected then Out will take on the values of In, and vice versa.

In the example shown above the red holly berries were selected using a lightly feathered selection prior to calling **GamSat**. The green leaves (outside the selection) have been set to a reduced gamma (0.661) to even out the light and shadow. The berries (inside the selection) have been given both an increased gamma and increased saturation to make them stand out a bit more. The effect of this is make the image more decorative while retaining the feeling of naturalness. Please understand that this is an illustration. Any such adjustments are a matter of individual taste - they may appeal to one person but not to another.

Undo

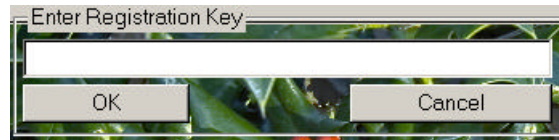
Version 1.02 also introduces Undo to **GamSat**. The undo feature operates in a fairly straightforward manner, and up to 50 steps are retained for undo (Back) and redo (Ahead). Note that scrollbar settings are saved for Undo only the scrollbar button is released. Revert takes you back to the setting when **GamSat** was initially called, but if no settings are changed after pressing Revert, it is possible to use Ahead or Back to return to the active sequence.

Speed

Version 1.02 of **GamSat** is much faster than previous version, but is still slower than our other plug-ins, **ColorNeg** and **ColorPos**. You may have to wait a bit to see a scrollbar change reflected in the preview image, and the final conversion will take longer than **ColorNeg** or **ColorPos** do when you click OK to return to Photoshop.

Registration

The current version of **GamSat** will operate for a 30 day trial period, after which a registration key will be required to make it function. See the ReadMe file for the most current information on obtaining a key. When you have a key, customarily delivered by e-mail, copy the key from the e-mail using control-C or Edit→Copy. Press the Register button and a dialog box will appear:



Paste the registration key into its box and click OK. Then click either OK or Cancel on the **GamSat** filter box and the registration will be complete. The next time the **GamSat** dialog box comes up, the registration information will be present and the Register button will have disappeared, replaced by a Remember checkbox.

The Remember Checkbox

Ordinarily it makes sense to start **GamSat** fresh each time, using default values (i. e. unchanged) for each of the parameters. However, it is sometimes necessary to apply the same or nearly the same changes to each of a series of similar images. The Remember checkbox provides for this. Check Remember before you OK out of **GamSat** and the next time **GamSat** comes up it will have retained the settings from the previous image as a starting point. When you uncheck Remember before OKing out of **GamSat**, next time up it will use the default values.