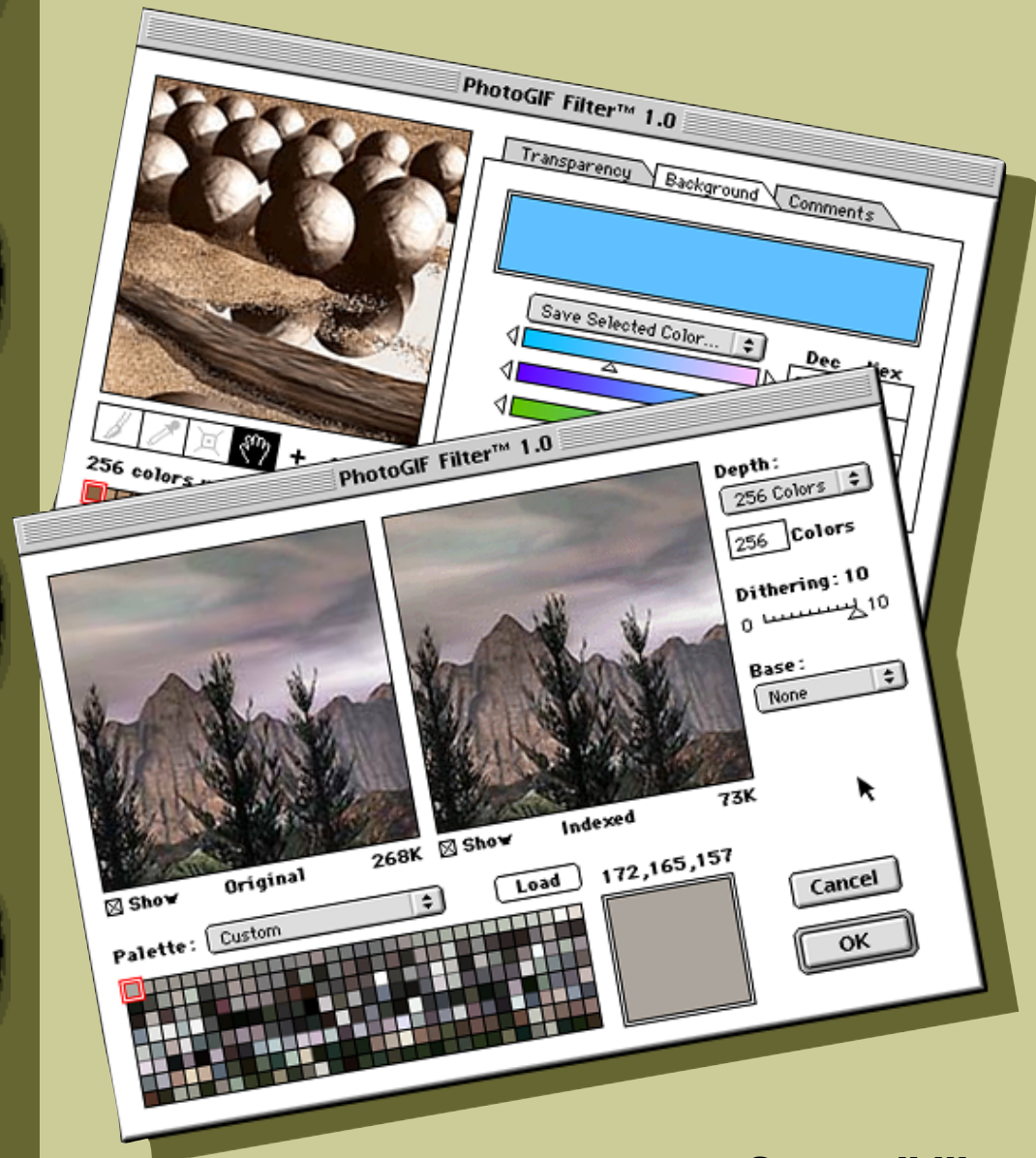


100110

# BoxTop Software Inc.

## PhotoGIF™ Filter

Part of the PhotoGIF 3 Series



### Compatibility

Adobe Photoshop® 2.5 and Later

Also works with most other image editors that support Photoshop filters

Macintosh and Power Macintosh



**Power Tools for Power Users**

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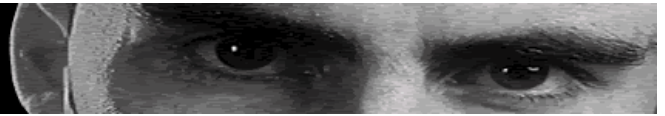
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# Introduction



Welcome to the third generation of the **PhotoGIF** series, BoxTop Software's sophisticated power tool for producing compact, high-quality GIF files for the Web. This is the user manual for the Macintosh version of **PhotoGIF Filter™ 1.0**, which works as an Adobe Photoshop filter plug-in instead of a file format or export plug-in. This way, it works with Photoshop 2.5 or later *and* with most other programs that support Photoshop plug-ins. (Most programs that support Photoshop plug-ins only support filters, not other types of plug-ins.)

Other plug-ins in the PhotoGIF series include:

- **PhotoGIF 3.0**, a version of PhotoGIF which appears as an available file format in Save dialogs in Photoshop 3.0 or later and supports opening and saving animated GIFs (Macintosh/Windows)
- **PhotoGIF Lite 1.0**, a version of PhotoGIF which relies on Photoshop to do color reduction (the other plug-ins do their own color reduction for better results) and appears in Save dialogs (Macintosh/Windows)
- **PhotoGIF Illustrator 1.0**, a version of Photoshop which works with Adobe Illustrator 6.0 or later (Macintosh only)

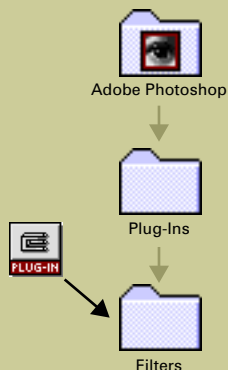
Demonstration versions of the latest version of these products can always be obtained from BoxTop Software on the Web at:

<http://www.boxtopsoft.com/>

# Installation

PhotoGIF is not a stand-alone program. Rather, it is a plug-in which works with Adobe Photoshop and other image editing programs. To install it, you must copy or move the PhotoGIF Filter icon to the folder where your image editing software expects to find filter plug-ins.

## If you use Adobe Photoshop 3.0 or later

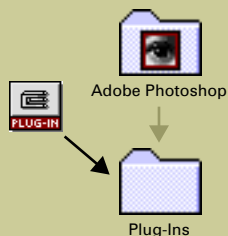


Open the folder containing the Photoshop application. In this window you'll find a folder called Plug-ins. Open this folder and find the folder called Filters inside it. Drag the PhotoGIF Filter icon into the Filters folder.

Photoshop usually looks for plug-ins in the Plug-ins folder in the same folder as the application unless you tell it to look elsewhere. If you keep your Photoshop plug-ins in a different folder, put PhotoGIF Filter in the Filters folder inside that folder instead.

PhotoGIF will appear in the BoxTop Web Tools submenu of the Filter menu the next time you start Photoshop.

## If you use Adobe Photoshop 2.5



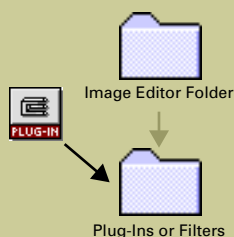
Open the folder containing the Photoshop application. In this window you'll find a folder called Plug-ins. Drag the PhotoGIF Filter icon to this folder.

Photoshop usually looks for plug-ins in the Plug-ins folder in the same folder as the application unless you tell it to look elsewhere. If you keep your Photoshop plug-ins in a different folder, put PhotoGIF Filter in the Filters folder inside that folder instead.

PhotoGIF will appear in the BoxTop Web Tools submenu of the Filter menu the next time you start Photoshop.



## If you use a different image editor



Most image editors have a folder called Plug-ins or Filters in the same folder as the application. Drag the PhotoGIF Filter icon to this folder. (If you can't find the right folder, consult the instructions that came with your image editing software.)

Some image editors can be configured to look for plug-ins in a folder you choose, rather than in the usual folder in the same folder as the application. If you keep your plug-ins in a different folder from the one where your image editor normally looks for them, put PhotoGIF Filter in that folder instead.

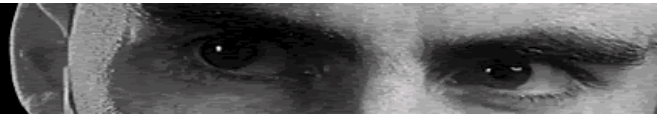
The next time you start your image editing software, PhotoGIF Filter will appear in the same pull-down menu that lists your other filter plug-ins. (In most editors, this is the Filter or Plug-in menu. If you can't find the right menu, consult the instructions that came with your image editor.) Depending on the software you use, it may appear in a submenu called BoxTop Web Tools, or mixed in with the other filters.

## If you use more than one image editor

If you have more than one image editor, you may want to use PhotoGIF Filter with all of them. The most straightforward way to do this is to make two (or more) copies of the PhotoGIF Filter file, then put the copies in the Filters or Plug-Ins folder of the programs you want to use it with.

You may also be able to share a single copy of PhotoGIF Filter among multiple image editors by making an alias of the PhotoGIF Filter icon, then putting the alias in the Filters or Plug-ins folder of the applications you want to use it with. This way, when we release a new version of PhotoGIF Filter, you only need to update one copy.

However, some image editors may not recognize aliases of plug-ins. If PhotoGIF Filter doesn't appear in an image editor's menus, try using a copy of the filter rather than an alias.



If you want to use *all* your filters in all the image editors you have, you may be able to achieve this by making an alias of your main Plug-ins or Filters folder, then replacing the Plug-ins and Filters folders of your other image editors with the alias. Alternately, if all your image editors can be told to look in a specific folder for plug-ins (check their Preferences dialogs), simply place all your plug-ins in a single folder and tell all your image editors to look for them there.

# Using PhotoGIF



PhotoGIF Filter is invoked like any other filter—by choosing it from the Filter or Plug-Ins menu of your image editor. In Adobe Photoshop, it appears under the BoxTop Web Tools submenu of the Filter menu. Instead of applying an effect to your image, however, PhotoGIF Filter exports the image (or the current selection) as a GIF file, much as an Export plug-in would. Your source image is *never* changed by using PhotoGIF Filter.

**In this chapter you'll learn:**

- How to prepare your image for saving with PhotoGIF Filter
- How PhotoGIF's color reduction dialog works
- How PhotoGIF's image options dialog works

The next chapter provides step-by-step walkthroughs for a variety of common tasks you'll perform with PhotoGIF.

## Before You Save

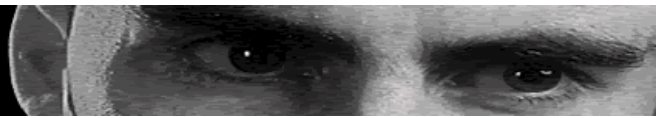


PhotoGIF Filter works only with RGB images. If your image is in some other mode, such as CMYK or Indexed Color, convert it to RGB before choosing PhotoGIF Filter from the menu. In versions of Photoshop before 4.0, use the Mode menu. In Photoshop 4.0 and later, use the Mode submenu of the Image menu.

- Other image editors offer similar functionality but may use a different name, such as "Change Bit Depth" or "24-bit Color." (See your image editor's documentation if you can't find this command.)

PhotoGIF Filter, like other filters, operates only on the active layer (the layer selected in Photoshop's Layers palettes). If your image has more than one layer, you will need to reduce it to one layer before saving it with PhotoGIF Filter.





In Photoshop, there are two primary ways to combine multiple layers into a single layer suitable for saving with PhotoGIF Filter. (See your image editor's documentation if you're not using Photoshop.)

- Use the Copy Merged command on the Edit menu to copy all visible layers to the clipboard, then Paste to create a new layer. Use PhotoGIF Filter to export this layer as a GIF. You can delete the extra layer after you've saved.
- Save the document, then use the Flatten Image command on the Layer menu to reduce the image to a single layer. Use PhotoGIF Filter to export the image. After exporting, use the Revert command on the File menu to get your layers back.



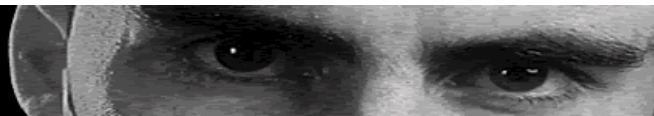
Shift-click the Alpha channel

If you are using an alpha channel to indicate what parts of the GIF should be transparent, make sure the alpha channel is selected (along with the image channels) by shift-clicking it in Photoshop's Channels palette before saving. Because it's a filter, PhotoGIF Filter knows only about the channels that are selected when you invoke it, so you must explicitly select the channel you wish to use for transparency. (Remember, in an alpha channel, black means fully transparent and white means fully opaque.)

Photoshop will not allow alpha and color channels to be selected at the same time if the document contains more than one layer, so you should flatten the image if you plan to use an alpha channel. If you're not using Photoshop, consult your image editor's documentation for information on selecting alpha channels.

You can have PhotoGIF export only part of a document by selecting the desired portion before invoking the filter. If no part of the image is selected, the entire image is saved.

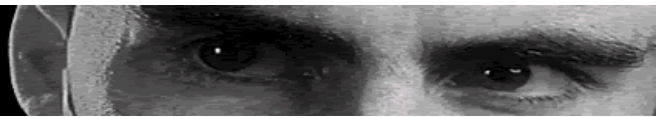




## Color Reduction

An RGB image can include about 16.7 million distinct colors. GIF, however, is an indexed color format which can store images with no more than 256 colors. PhotoGIF's first order of business, then, is to choose the 256 (or fewer) colors that best approximate the colors actually used in your image. Since the number of colors is the main factor which determines file size of the final GIF file, it pays to use as few colors as possible. PhotoGIF has one of the most effective color reduction engines in the industry, with the result that it can obtain acceptable image quality with fewer colors than other tools—leading to the smallest GIF files possible. Best of all, PhotoGIF continuously displays the size of the GIF in its window, updating it whenever you make a change to the color reduction settings, so you can see exactly how the choices you make affect the size of the GIF file.

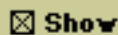




**Original and Indexed Previews:** The color reduction dialog is dominated by two preview areas. The one on the left shows the original image; the one on the right shows the image after color reduction. The image on the right is re-generated whenever you change a color reduction setting.



When you move the pointer into either preview area, the arrow changes to a hand. Dragging with the hand scrolls the image preview. The two previews can be scrolled independently.



You can disable the display of either preview by unmarking the Show checkbox immediately below it.

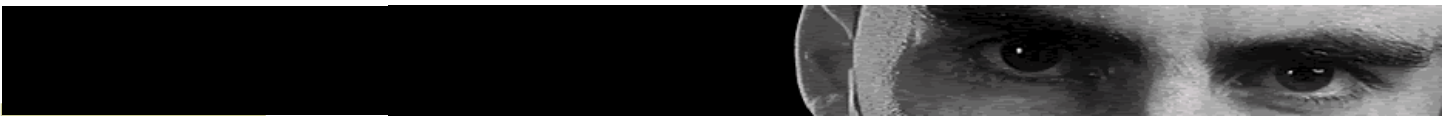
Indexed 58K

Below the preview windows are file size indicators for both the original image and the compressed (indexed) GIF image. PhotoGIF automatically re-compresses the image using the settings you've chosen whenever you make a change, so the Indexed size is an accurate figure, not an estimate. (However, if part of your image will be transparent, the final file can be smaller. Transparent areas usually compress very well.)

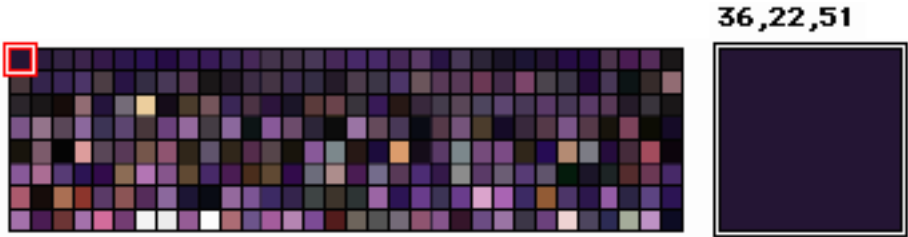
**Palette:** This section of the color reduction dialog determines which colors will be used in the final GIF image. This assortment of colors, collectively, is known as a palette. The choices on the Palette pop-up menu include:

- **Custom:** PhotoGIF generates a custom palette based on the colors in the image. This usually gives the best results with photographic or continuous-tone images. This is similar to Photoshop's Adaptive palette, although the algorithm PhotoGIF uses to choose the colors is different.
- **Netscape:** PhotoGIF uses the so-called "Netscape" or "Web Safe" palette, which consists of 216 colors that are available on all the platforms Netscape Navigator runs on. This allows you to see what your image will look like on a monitor which can only display 256 colors, and also ensures that line art which uses these 216 colors will never be dithered when displayed by a browser on a 256-color monitor.
- **Grayscale:** PhotoGIF converts the image to grayscale and selects an assortment of gray tones suitable for the converted image.
- **System:** PhotoGIF uses the Macintosh system palette.

Palette: Custom



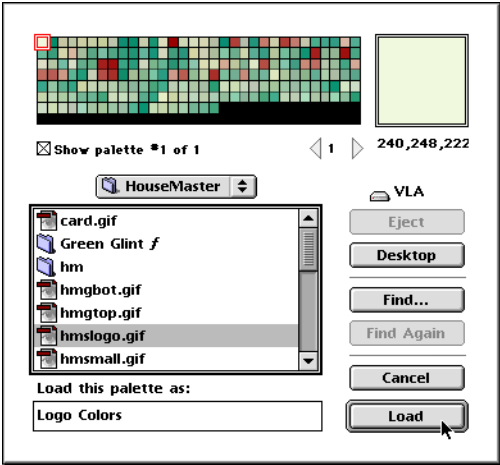
The Palette menu may also contain palettes which were loaded from other files using the Load button, which we'll cover momentarily.

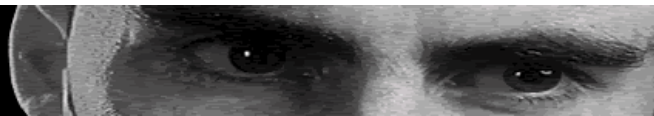


Below the Palette pop-up menu is the palette itself. This grid displays the collection of colors which will actually be used to color-reduce your image, whether calculated by PhotoGIF or loaded from disk. Clicking a palette square displays the color in the larger swatch to the right, along with its red, green, and blue color values. (Color values are displayed in decimal notation on a scale of 0 to 255.)

**Load**

The **Load** button can be used to tell PhotoGIF to use the same palette as another image instead of generating a new one. An Open dialog appears, asking you to choose a GIF file or Photoshop palette file. The palette of the selected file appears at the top of the dialog, so you can preview palettes before you open them. (If the file you've selected contains more than one palette—as GIF files can—you can also choose which palette you want from the file using the arrow buttons.) At the bottom of the dialog, enter the name by which you want the palette to be known in the Palette pop-up menu in the main color reduction dialog.





Depth :

256 Colors

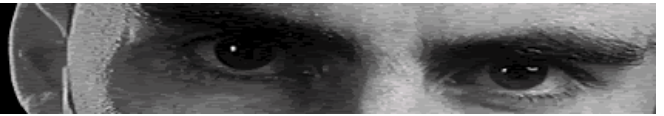
256 Colors

**Depth and Colors:** The Depth pop-up menu and the Color field are two different but related ways to specify the number of colors to be included in the color-reduced image. This is the single most important factor in the size of the final file.

The numbers on the Depth pop-up menu are related directly to the number of bits required by each pixel in the image; each additional bit allows a doubling of the number of colors.

<u>Number of bits</u>	<u>Number of colors</u>
1	2 (B&W)
2	4
3	8
4	16
5	32
6	64
7	128
8	256

While the Depth pop-up menu lets you directly choose the number of colors that corresponds to each bit depth, you are not limited to these values. You can also enter the desired number of colors directly in the Colors field below the menu. The pop-up menu automatically changes to display the *maximum* number of colors which can be represented using the number of bits required for the number of colors you actually entered. For example, if you enter 10 in the Colors field, the pop-up menu changes to 16, since representing 10 colors requires 4 bits per pixel (it won't fit in 3 bits and you can't use part of a bit), and 4 bits per pixel can represent up to 16 colors.

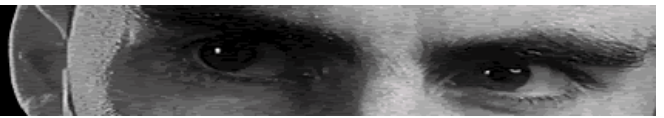


You may be tempted to try to make the color-reduced image look as much like the original as possible. But remember, the people who will see your final GIF files on a Web page don't know what the original image looks like. The correct criterion for selecting the right color depth is whether it looks acceptable and loads quickly enough, not whether it is perfect when compared to its source material. The definition of "acceptable" depends on the type of image you're compressing. An artist's portfolio should naturally place more of an emphasis on accuracy than, for example, an 32-pixel-wide icon.

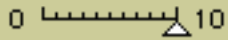
Sometimes it's obvious what the "right" number of colors is. For example, if you have a two-color logo on a white background, the obvious starting point is three colors. If the logo is antialiased against the background, start with four times the number of *non-background* colors—8, in this case—and work your way up.

Sometimes, though, the image might be too complex for a simple rule of thumb like that one. Here's a strategy that works rather well for choosing an appropriate number of colors when you're not sure. (Eventually, after using PhotoGIF for a while, you will find yourself able to guess pretty accurately.)

- Turn off the Original image preview. Remember, the goal is not to match the original image but to produce acceptable results.
- Turn dithering (see below) all the way up to 10. Dithering has less of an effect on file size than the number of colors, so it is almost always better to have a file with fewer colors and high dithering than one with more colors and no dithering. We will adjust dithering later; for now it is best to focus on color depth, and setting dithering to 10 eliminates it as a consideration.
- Set the number of colors to 2, then gradually increase the number of colors until image quality is acceptable for your purposes. Almost all images need more than two colors.
- Turn dithering off entirely by setting it to zero. If necessary, increase dithering strength gradually until image quality is acceptable again. You will almost never need to set dithering all the way back to 10.



Dithering: 10

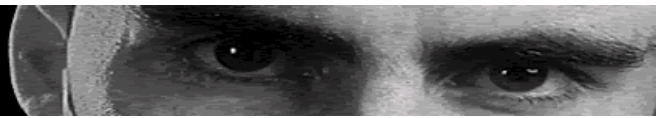


**Dithering:** Not every color in the original image can always be precisely represented in the GIF you save. It's a mathematical impossibility, given that the source image can contain more than sixty-five thousand times more colors than a fully-loaded GIF. Therefore, PhotoGIF offers *dithering*, a process that approximates colors that are present in the original image that are not present in the palette. Dithering can be used to improve the visual quality of color-reduced images, but it also results in larger files, since it introduces an element of randomness—also called *entropy* or *noise*—which cannot be compressed effectively.

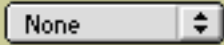
Dithering can be used to combat an artifact common to color-reduced images called *banding*, in which what should be a smooth color gradient with no visible edges is broken into areas of flat, distinguishable colors. Increasing the color depth of the image can also reduce banding, but dithering is usually a better solution since it has less impact on file size. (Dithering can add a slight graininess to images, so in rare cases you may find more colors, and a larger file, preferable.)

Unlike Photoshop's dithering, PhotoGIF's dithering is adjustable. Some images, such as line art, won't need much, if any. Others, such as photographs and 3D renderings, may require more dithering to eliminate visible banding.

Since dithering is less of a factor in file size than color depth, we suggest you start with dithering set at 10 and leave it there until you have found a color depth that provides acceptable image quality. Then turn dithering all the way down—which may reduce image quality noticeably—and increase it one notch at a time until image quality is once again acceptable. It should never actually be necessary to use a dithering of 10, since settings above 7 or 8 are usually visually indistinguishable but nonetheless reduce compressibility.



Base :

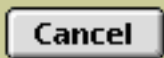


**Base:** The Base pop-up menu protects specific colors, such as ones used in a logo or text, ensuring that they will appear correctly in the final GIF file even when they are not the predominant colors in the image. Before building a custom palette, PhotoGIF determines which of the colors in the base palette are present in the source image. The protected colors, if any are found, are copied to the custom palette, effectively reserving them a spot in the GIF. Then PhotoGIF chooses additional colors from the image and places them in the palette, up to the total number of colors you have specified.

In brief, then, the Base palette lets you guarantee that certain colors are never dithered when they are used in an image, without forcing the rest of the image to use the same palette. Colors from the base palette which aren't actually used in the image do not take up space in your palette, leaving more room for colors which can make the rest of the image look good.

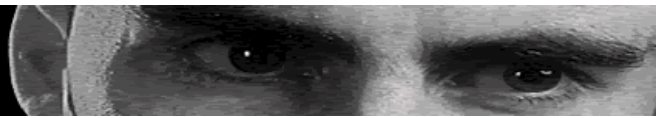
Before you can select a custom palette as the base palette, you must load it into PhotoGIF using the Load button next to the Palette pop-up menu. (The standard fixed palettes—the Netscape, Grayscale, and System palettes—are always available.) The Load button can read palettes from GIF files and Photoshop color palette files. (See page 11 for more information on using the Load button.)

The Netscape palette, a collection of 216 colors which Netscape never dithers on a 256-color display regardless of the platform, is useful as a base palette if you have used colors from this palette in a line art image or illustration. Protecting these colors effectively ensures that areas where these colors have been used exclusively are never dithered by the browser on 256-color monitors, without subjecting the rest of the image to the same palette on monitors which can display more colors.



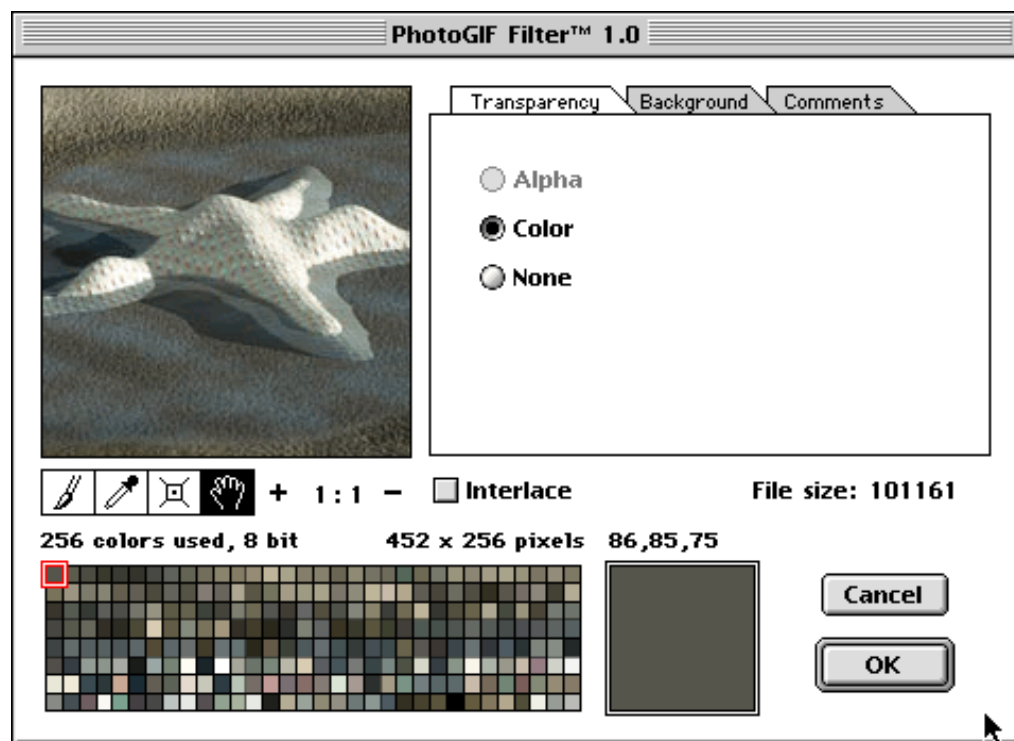
**OK:** Once you have chosen the desired color reduction settings, click OK to accept the color reduction settings and move on to setting the image options, including transparency.





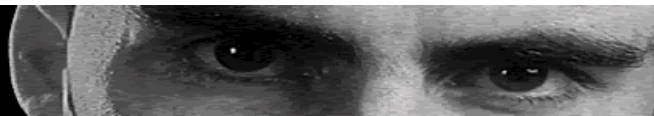
## Image Options & Transparency

In this dialog, shown below, you can tell PhotoGIF which parts of the image should be transparent, set the desired background color, specify whether the image will be interlaced, and enter a comment for attachment to the final GIF file. You can also see the exact size of the image file in bytes. At the bottom of the dialog is the familiar palette display.



### Transparency

**Transparency:** The preview area in the Image Options dialog shows the effects of the transparency settings. At first, no transparency is set, so the image looks the same as it did in the Indexed preview window of the color reduction dialog. The Transparency tab at the top of the dialog determines method will be used for determining what part of the image will be transparent.



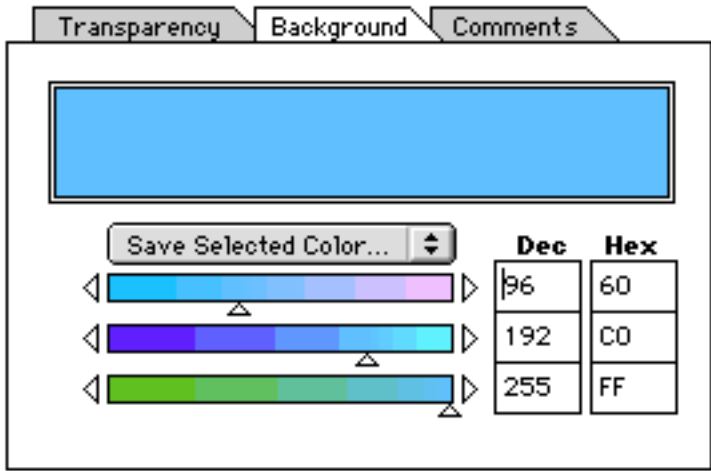
PhotoGIF displays the effects of the transparency controls as you change them; the transparent areas are displayed using the background color set in the Background panel of this dialog. You won't be able to see the transparent areas if this is the same as the canvas color. For example, if you created your image on a white background, and PhotoGIF's background color is also set to white, you won't be able to see the transparent areas as you work. Set the background color to a distinctive color so you can see the transparent areas. (However, you should set the background color to a more appropriate color before you save.)

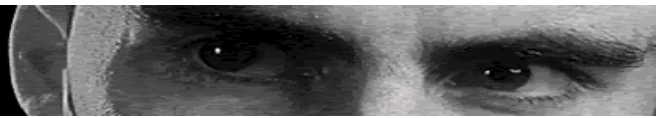
- Alpha
- Color
- None

- **Alpha:** The transparent portions of the image will be determined by an alpha channel, which you can choose from the small pop-up menu which appears next to the Alpha radio button when it is activated. (To allow PhotoGIF Filter to "see" the alpha channel, you must shift-click it in Photoshop's Channels palette before invoking the filter. Photoshop will not allow you to do this if the image has more than one layer, so it will be necessary to flatten or merge multi-layer images first. See page 8.) Black areas in the alpha channel map to transparent areas in the image; white areas are opaque. GIF does not support partial transparency. Any non-black area in the alpha channel, even an extremely dark gray indicating a mostly transparent area, is treated as opaque.
- **Color:** All areas that are a particular color (or one of several colors) will be made transparent.
- **None:** The image is entirely opaque.

Background

**Background color:** Clicking the Background tab displays the color which will be used to fill in the transparent areas of the image.





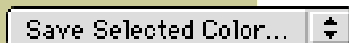
The background color will often appear when the image is loaded into a GIF viewer or Web browser which doesn't support transparency. In any case, it should match, as closely as possible, the color of the background over which the image will appear on your Web page, rather than the color of the background over which the image was created. (The two colors might of course be the same, but if they are different, use the Web page background.)

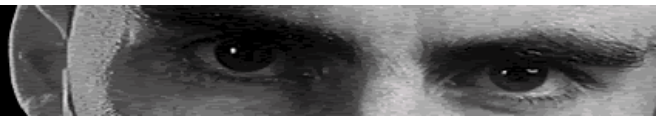


Dec	Hex
96	60
192	C0
255	FF

You can enter RGB color values using the sliders just under the color sample (the arrows at either end "nudge" the slider in the indicated direction), or by typing decimal or hexadecimal values directly into the fields to the right of the sliders. Or you can choose a pre-defined color directly from the pop-up menu above the sliders.

If you define a color using the sliders, the pop-up menu will also offer the option to add the new color to the pop-up menu. You'll be asked to name the color; once you have done so, it will appear on the pop-up menu for quick access in the future. You can also remove a color from the pop-up menu using the **Remove Color** menu item.





**Transparency Tools:** Once you have selected a method of defining transparency for your image and chosen the appropriate background color, you'll want to define the actual transparent area. (If you are taking transparency from an alpha channel, the appropriate area should already be defined.) This is where the transparency tools, located under the image preview area, come into play.



Paintbrush



Eyedropper



Edger



Hand

+ 1:1 -

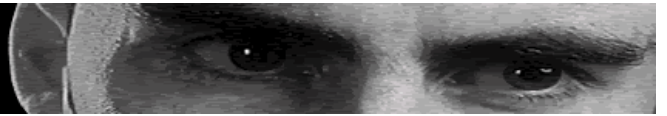
Comments

Interlace

- **Paintbrush:** Paints with transparency. Any part of the image you touch with this tool becomes transparent, regardless of its color. The paintbrush is useful for touching up stray pixels which are left over after you choose a transparent color with the eyedropper.
- **Eyedropper:** Chooses a transparent color. Every pixel in the image which is the same color as the pixel you click becomes transparent. Hold Shift while clicking to make additional colors transparent. Hold Command to make the color you click opaque, subtracting it from the existing transparency mask.
- **Edger:** Removes halos. It's better not to have halos to begin with—you can reduce their occurrence by designing your image over a background similar to the one you use on your Web page—but if you have them, the Edger can help. Precision is not necessary; simply trace around the opaque area of your image, and the halo will be automatically removed. (This tool assumes an appropriate color has been set in the Background tab.)
- **Hand:** Scrolls the preview so you can work on other parts of your image.
- **Zoom:** Selects the magnification of the image preview, from 1:8 (one-eighth actual size) to 8:1 (eight times actual size). Click + to zoom in, - to zoom out.

**Comments:** You can enter up to 32 kilobytes of text under the Comments tab. Although you won't often go to this extreme, it's often worth a few bytes to enter a copyright or authorship notice.

**Interlace:** Interlaced GIF images have the rows out of order: first every eighth row, then every fourth, and so on. Since this out-of-order image data is displayed as it is received, interlaced GIFs *appear* to start loading faster in a Web browser, displaying a low-resolution version almost immediately and refining it further as more data arrives.



Interlacing is recommended for large single-frame images. Users will be able to get a sense of what the image represents quickly, making the browsing experience smoother and apparently faster. (However, interlaced GIF files are not actually any smaller than normal ones and do not *really* load completely any faster.) Images smaller than a kilobyte or so should never be interlaced, as the time the browser spends rendering them will negate any advantage they offer.

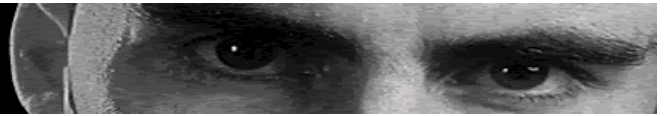


Cancel



OK

**OK.** Once you've set your transparency and other options, click OK to save the image using a standard Save dialog. PhotoGIF Filter does not save previews or custom icons with the files it creates; therefore, the file size you see in the Finder is the image's true size.



The previous chapter described PhotoGIF Filter's features and explained the dialogs and controls which operate these functions. In this chapter, we'll walk through four kinds of jobs you'll frequently find yourself doing with PhotoGIF Filter.

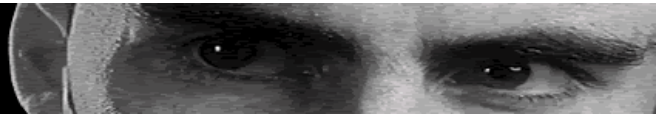
- Saving a photograph or computer-generated illustration
- Saving a line art illustration, using color to determine transparency, and removing a halo
- Saving a photograph, using an alpha channel to determine transparency
- Saving a mixed photograph and logo image, using a base palette to protect the logo colors

### Saving a **Photograph or Computer-Generated Illustration**

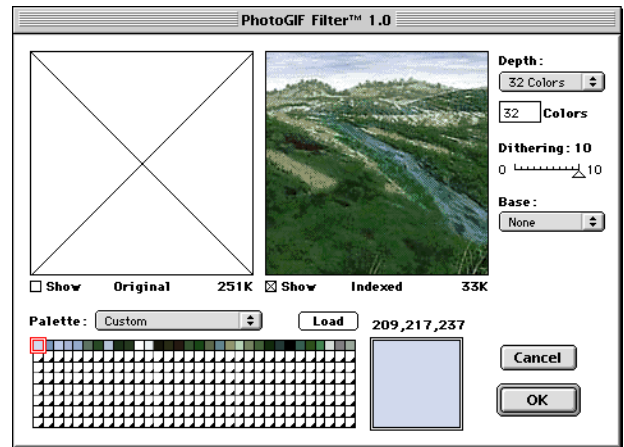
Photographs, and computer-generated illustrations like the one shown below, frequently incorporate areas of gradients and shading which take full advantage of the millions of colors available on modern computer displays.



In a limited-color format like GIF, retaining acceptable image quality will require a relatively high number of colors and, more than likely, a fair amount of dithering. PhotoGIF helps you get the best possible results. Here's how.



- Our image is one layer deep, so we don't have to worry about flattening it before we invoke PhotoGIF Filter. If we had used multiple layers, though, we'd have to flatten the image, or else create a new layer to paste a merged version of the image into.
- Now we open PhotoGIF Filter by choosing it from the Filters menu. The color reduction dialog appears.
- Since the image is larger than the preview area, we position the most important area of the image in the Indexed preview, so that we can see how our choices affect it.



Initial settings for color reduction

- We set dithering to 10 to completely eliminate it as a factor for image quality.
- We set the palette to Custom, so PhotoGIF generates a palette for us based on the number of colors in the image.
- We set the base to None, since we don't want to protect any colors in this image from dithering.
- We turn off the Original preview so we're not tempted to judge the color-reduced image against it. Our goal is to produce acceptable results rather than to match the original image precisely.
- We set the depth at 32 colors, which we intuit will not be enough.

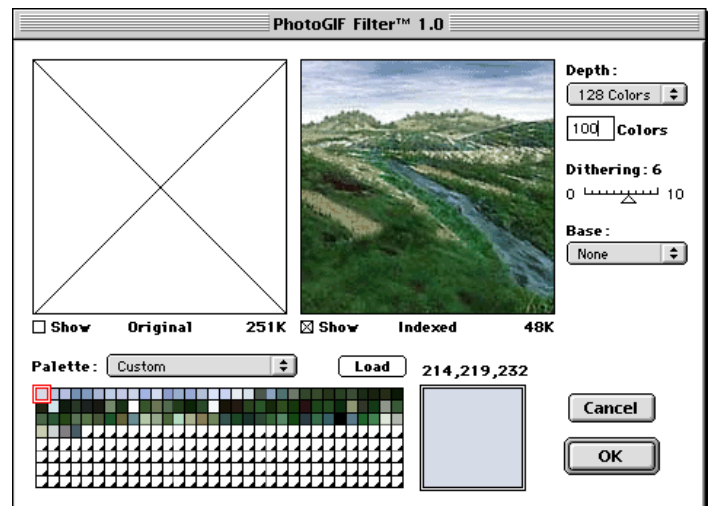
- The image has lost a lot of its color and vitality due to the limited palette. We increase the depth to 64. That's pretty good, but not perfect. We try 128. It looks great, which tells us that we probably don't need quite *that* many colors. Using the Colors field, we determine that about 100 will do.

- Next, we set Dithering to 0, completely turning it off. Not surprisingly, the image now contains visible banding in the sky.

- We increase dithering until the banding is not so objectionable.

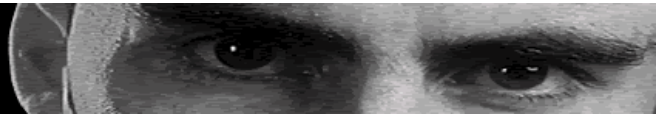
We found acceptable results at a setting of about 6.

- We make sure that the entire image has acceptable quality by dragging it around in the preview with the hand tool, just in case there are some areas where banding is worse than we expect. We find no surprises, so we click OK.

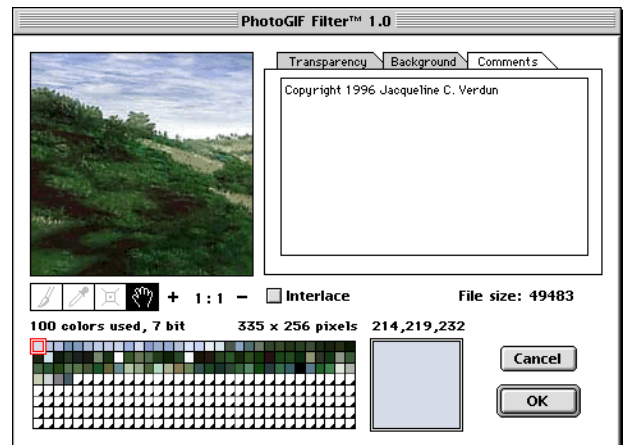


Final settings for color reduction





- This takes us to the Image Options dialog. This image has no transparent areas. However, we do want to enter a copyright notice in the Comments panel.
- After entering the comments, we click OK, then name the file in the Save dialog which appears.



Entering a copyright notice

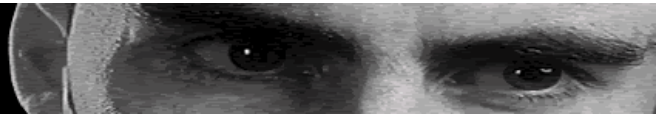
## Saving a Line Art Illustration with Color Transparency and Halo Removal

We've scanned the three-color logo below from a company's letterhead for use on their Web site.

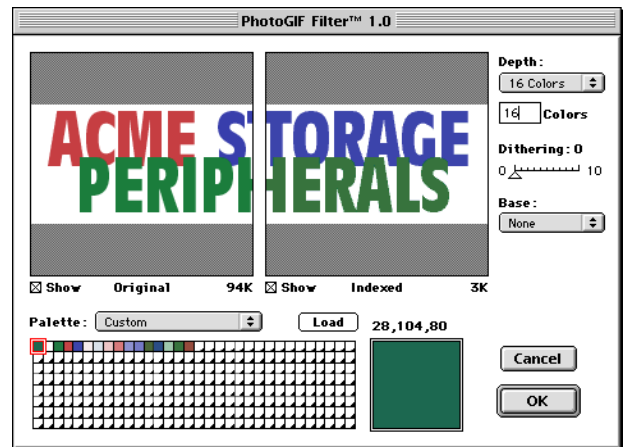


Unfortunately, the letterhead is on white paper, while the Web site has a medium yellow background. We'll use transparency to knock out the white areas, but the disparity in background colors will cause a white halo when the image is used on the Web site—so we'll use PhotoGIF's Edger tool to eliminate it.

- Our image is only one layer deep, so once again we can start simply by choosing PhotoGIF Filter from the Filter menu.
- Since this is a line art image, we turn dithering off entirely.
- We choose a Custom palette to allow PhotoGIF to generate the palette for us based on the colors in the image, with no Base.

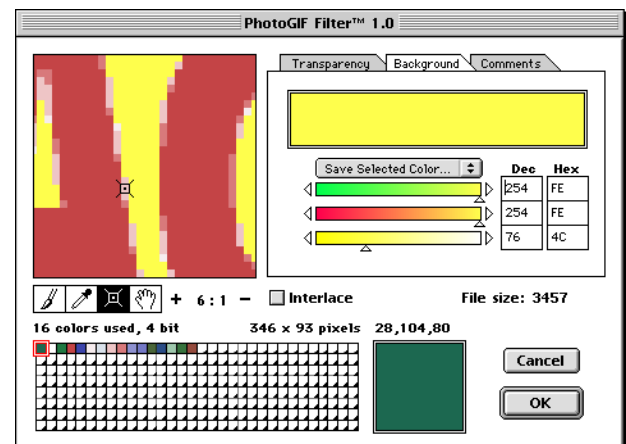


- The image contains four colors (including the white background color), so we try telling PhotoGIF to generate a palette with four colors. However, PhotoGIF reserves one space in the palette for black even if it's not used in the image (for dithering purposes). Furthermore, since the image was scanned and reduced, it's antialiased, meaning that it contains several in-between colors which serve to smooth out the edges of the image. Thus, the total number of colors needs to be higher to make sure the edges of the shapes in the logo are smooth.

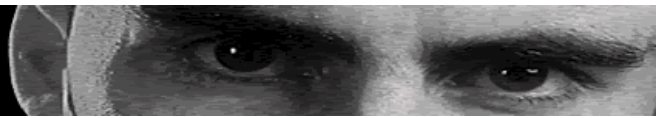


Color reduction settings for logo

- We find that sixteen colors is the lowest number of colors that produces acceptable results. We click OK. (We might be able to get by with fewer colors if we added dithering, but dithering is not appropriate for antialiased line art.)
- PhotoGIF displays the Image Options dialog. Under the Transparency tab we select Color, then click the white background of the image with the eyedropper tool.
- We click the Background tab and set the background color to the yellow color we're using for the background on the Web site.
- We zoom in the preview and see that we have a slight halo around the logo, so we grab the Edger tool and run it around the edge of the logo to eliminate the halo.
- When it's gone, we click OK and save the image.

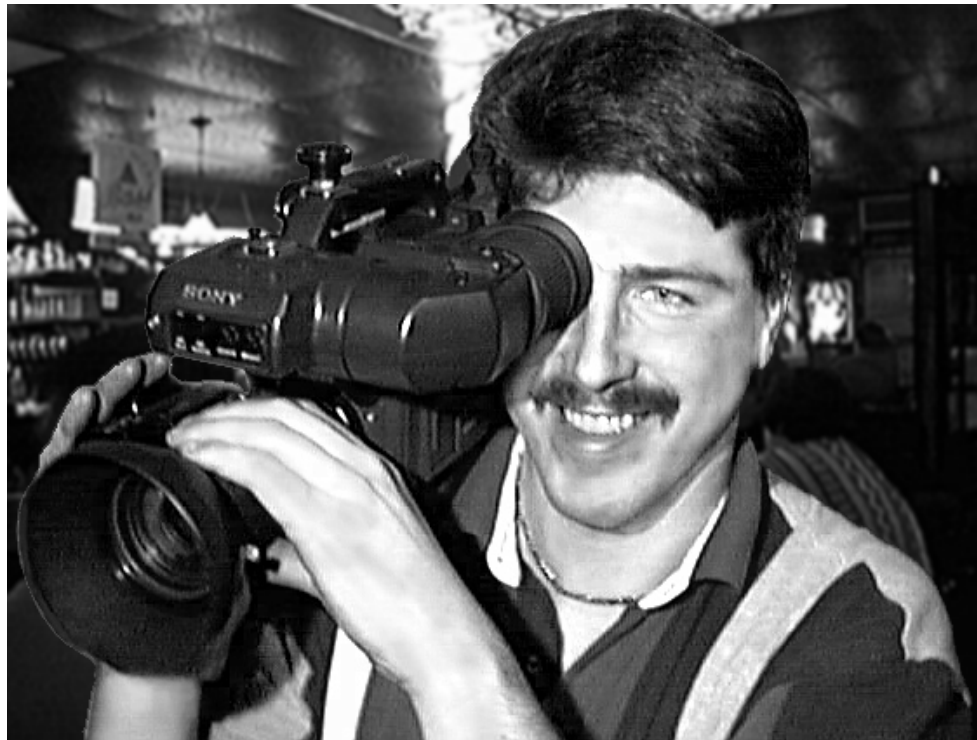


Removing a halo with the Edger



## Saving a Photograph with Alpha Channel Transparency

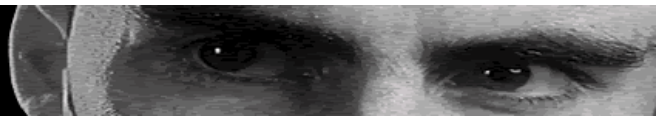
Here we have a black-and-white photograph which we want to use on a Web page. We've created an alpha channel for just the person in the picture (and his video camera), which we'll use to define the transparency and exclude the background from the Web page.



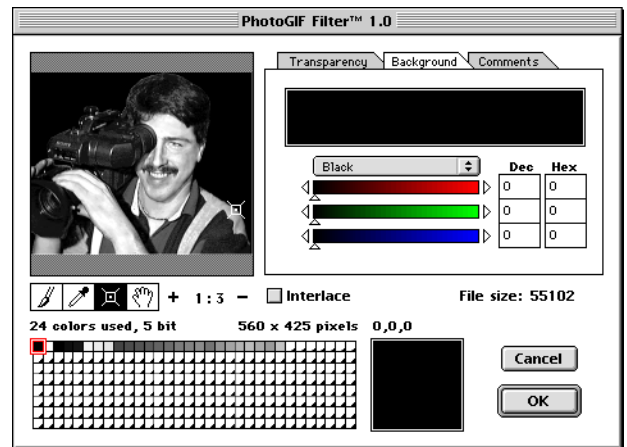
The alpha channel

We have used an Adobe Photoshop adjustment layer on this image, so we'll need to flatten it before proceeding.

- First, we save the image as a Photoshop file so we can later recover our file with its separate layers, then we choose Flatten Image from the Layers menu. This is necessary so we can select the alpha channel later.
- Change the image's mode to RGB by choosing it from the Mode menu or from the Mode submenu of the Image menu.
- Open Photoshop's Channels palette and shift-click the alpha channel in the palette. All three color channels, the RGB pseudo-channel, and the alpha channel should be selected and the alpha channel should appear as a colored mask over the image.
- Open PhotoGIF by choosing it from the Filter menu. The Color Reduction dialog appears.



- We find that a custom palette with 25 colors, no base palette, and moderate dithering is sufficient for this image, and click OK. The Image Options dialog appears.
- In the Transparency panel, we choose to set the transparency from the alpha channel. In the Background panel, we choose a black background—the same color the image will appear over on the Web page.
- Luckily, the subject was photographed against a mostly dark background, so there is very little halo. What there is, we touch up with the Edger tool.
- This image is fairly large, so we make sure interlacing is enabled so it will appear to load faster.
- Finally, we click OK and then save the image using the Save dialog.

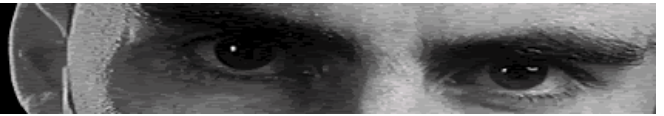


Alpha transparency, black background

## Saving a Mixed Image with a Base Palette for Color Protection

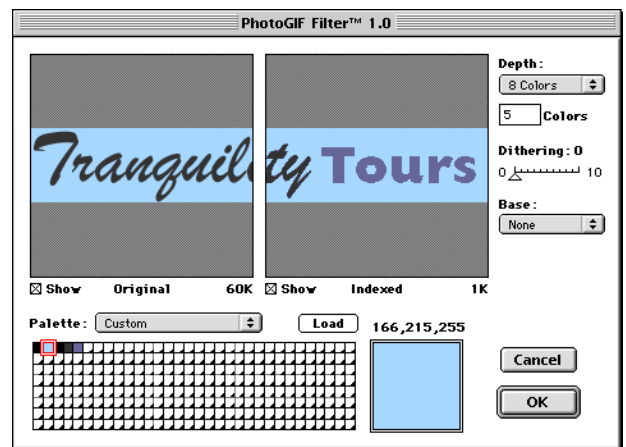
The image below contains both a continuous-tone image (a photograph) and a solid-color illustration (a logo).





The illustration uses colors from the Netscape (“Web safe”) palette which are similar to the colors in the photograph, which leads to the danger that PhotoGIF might end up dithering the logo, or altering the logo colors so that they are no longer in the Web safe palette and thus are dithered on computers displaying 256 colors. We will use a Base palette containing the colors in the logo to protect the logo from dithering by PhotoGIF and the browser. Here’s how.

- Create a new Photoshop document containing swatches of each of the colors from the logo. There is no need to be exact; you are simply creating a document which you will use to create a palette containing those exact colors. The easiest way to do this is to simply copy the logo portion of the image into a new document.



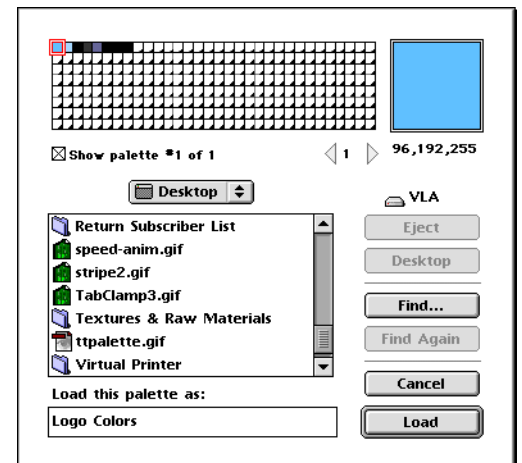
Creating a GIF with just the logo colors

- Save this image using PhotoGIF Filter with no dithering and a custom palette consisting of 5 colors (the Indexed preview window shows us this is the right number to include all the logo colors). The resulting GIF will contain a suitable base palette. Since we only care about the palette, not any of the actual image data, you can ignore the rest of the options in PhotoGIF Filter and simply save the GIF. Once this has been accomplished, you can close the image.

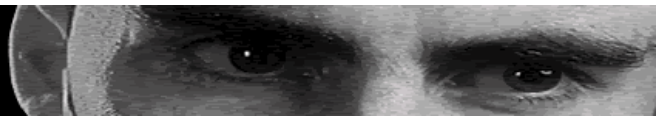
- Bring the combined image to the front. We put the logo on a layer separate from the photograph to make compositing easier. Thus, we’ll need to combine these two layers into a single layer before using PhotoGIF Filter on them. (Remember, PhotoGIF, like all filters, only “sees” the active layer when it’s invoked.) In our example, since we won’t be using an alpha channel to set transparency, we’ll do this by selecting the entire image, choosing Copy Merged from the Edit menu, and then pasting the merge image, creating a new layer for PhotoGIF to save.

- Now we invoke PhotoGIF Filter by choosing it from the Filter menu. The Color Reduction dialog appears.

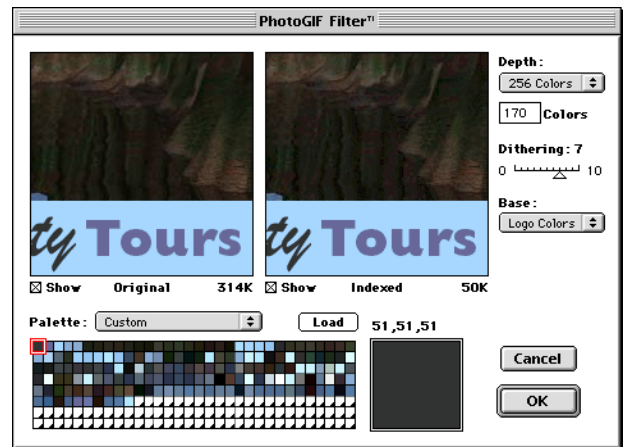
- We want to use the color palette we created earlier to protect the colors in our logo. To do so, we must first load the palette into PhotoGIF. Click the Load button above the palette. In the standard Open dialog which appears, locate the GIF file containing the logo palette and specify the name Logo Colors for the palette, then click Open.



Loading the logo colors base palette

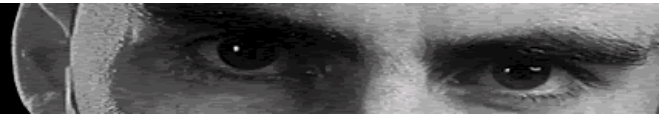


- Choose Logo Colors from the Base pop-up menu. The logo colors are now protected; PhotoGIF will not dither them. Since the colors are from the Netscape "Web safe" palette, the browser will not dither the colors either.
- Generate a custom color palette for the image using the usual techniques. We found about 170 colors and dithering of about 7 to be adequate. Click OK to move on the Image Options dialog.
- The image has a white background, and so does the Web page we're placing it over, so it would be of no benefit to make the background transparent. Set interlacing as desired, add a comment if you like, and we're done.



Color reduction settings for photo/logo image

## Support



E-mail questions about PhotoGIF Filter™ and other BoxTop Software tools may be addressed to [info@boxtopsoft.com](mailto:info@boxtopsoft.com)

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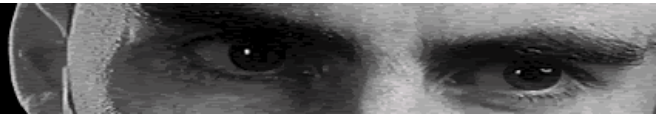
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