

# 10

## Preparing and Managing Color Filters

This chapter discusses how to prepare color filters that will be used by various editing or vectorizing tools, as well as local transformation tools. The Color Filter dialog box is used to create or edit color filters, to add or remove color filters from a set, to save a set into a color filters file, or to restore a set of color filters by opening an existing file.

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### Overview

A color filter is a list of color indices defining a specific subset of colors from the color palette of a given image. It is normally associated with an image and can be used with another image only if the images share the same color palette.

A color filter lets you handle any image with more than two colors exactly as if it was a two-color image. It is what we call a “dynamic binariser,” as it dynamically converts all colors of the filter into the “foreground color,” and all the rest into the “background color.”

A color filter cannot be defined for two-color images, as they already have only a foreground color and a background color. All tools used for image editing, for vectorizing or for local transformations normally work with binary (two color) images only. Because of this special feature, these tools can be used with images that have more than two colors.

A color filter specifically determines what will be considered as raster with various “raster” operations. For a given image, you can define an unlimited number of color filters to be saved in the same color filter file. For example, all colors rendering red lines on a scanned map constitute a color filter, while all colors rendering green lines or bodies constitute another filter. Another class of raster objects can be rendered with a mixture of red and green pixels that compose another color filter. A given color can be present in more than one filter.

Two tool boxes are associated with color filters:

- The Color Filter tool box is used to create or edit a color filter.
- The Color Filter File tool box is used to manage color filter files.

Both tool boxes give access to the Color Filter dialog box, which allows all operations for creating or editing color filters, for handling a set of color filters, for saving a set into a file, or for restoring a set of color filters from an existing file.

## Color Filter tool box



*Color Filter tool box*

The Color Filter tool box provides tools to add color indices to a filter, to subtract indices from a filter, to highlight the current color filter, or to open the Color Filter dialog box.

The Color Filter tools and functions are not available for two-color images.

### Add to Filter tool



*Add to Filter tool*

The *Add to Filter* tool adds a selection set of color indices to the selected color filter and, if the Color Filter dialog box is open, turns on the corresponding toggles in the Index list box. The selection set contains all color indices present inside an area interactively defined on the active image.

The tool settings window provides parameters for highlighting the color filter. See "Highlight Filter tool" on page 10-3, for a description of these parameters.

#### ► To add a selection set of color indices to a color filter

1. Select the *Add to Filter* tool.
2. Select the color filter to be edited (from the list of filters of the open Color Filter file).
3. Choose the type of area to be used for sampling.
4. Follow the instructions to define the area inside which pixels will be sampled from the image.

All pixels inside the area are read and all corresponding color indices are added to the selected filter.

### Subtract from Filter tool



*Subtract from Filter tool*

The *Subtract from Filter* tool removes a selection set of color indices from the selected color filter and, if the Color Filter dialog box is open, turns off the corresponding toggles in the Index list box. The selection set contains all color indices present inside an area interactively defined on the active image.

The tool settings window provides parameters for highlighting the color filter. See “Highlight Filter tool” on page 10-3, for a description of these parameters.

### ► To remove a selection set of color indices from a color filter

1. Select the *Subtract from Filter* tool.
2. Select the color filter to be edited (from the list of filters of the open Color Filter file).
3. Choose the type of area to be used for sampling.
4. Follow the instructions to define the area inside which pixels will be sampled from the image.

All pixels inside the area are read and all corresponding color indices are removed from the selected filter.

## Highlight Filter tool



*Highlight Filter tool*

The *Highlight Filter* tool is used to display the active image through the selected color filter.

Use the Filter option menu to choose the color filter.

Choose the desired effect with the Highlight option menu:

- None — No effect.
- Color — The colors belonging to the filter display in the color specified with the Color field.  
The other colors remain unchanged.
- Monochrome — The colors belonging to the filter display in black (or in a dark color).  
The other colors display in white (or in a light color).

### ► To highlight a color filter

1. Select the *Highlight Filter* tool.
2. Choose the color filter to be highlighted from the Filter option menu (from the list of filters of the open Color Filter file).
3. Choose the desired effect from the Highlight option menu.  
If you choose None, you will have no effect.
4. If you choose Color, then specify the highlight color in the Color field.

## Color Filter Dialog tool



*Color Filter Dialog tool*

Color Filter opens the Color Filter dialog box (See “Color Filter dialog box” on page 10-5).

## Color Filter File tool box



*Color Filter File tool box*

The Color Filter File tool box includes all necessary tools to manage Color Filter files (FTR files). A Color Filter file is used to save a set of color filters. It can be opened later and be edited or used with various raster operations. The same functions can also be accessed from the File menu of the Color Filter dialog box.

Any time unsaved changes to color filters are going to be lost, a warning message displays giving you the option to save the file.

### New Color Filter File tool

Used to create a new Color Filter file.



*New Color Filter File tool*

#### ► To create a new Color Filter file

1. Select the *New Color Filter File* tool.

If a Color Filter file is already open, you are asked if you wish to save the changes and then it closes. The new file is not given a name until it is saved with the Save Color Filter File tool.

The Temp color filter is created with every new color filter file. It is a temporary color filter that is used as an all-purpose filter.

### Open Color Filter File tool

Used to open a Color Filter file.



*Open Color Filter File tool*

#### ► To open an existing Color Filter file

1. Select the *Open Color Filter File* tool.
2. Use the File Navigation dialog box to choose an existing file. If a Color Filter file is already open, it first closes.

## Save Color Filter File tool

Used to save a Color Filter file.



Save Color Filter File tool

- ▶ **To save an unnamed Color Filter file**
  1. Select the *Save Color Filter File* tool.
  2. Use the File Navigation dialog box to name the file.
- ▶ **To save a Color Filter file already named**
  1. Select the *Save Color Filter File* tool.  
The file will be saved with the same name.

## Color Filter Dialog tool



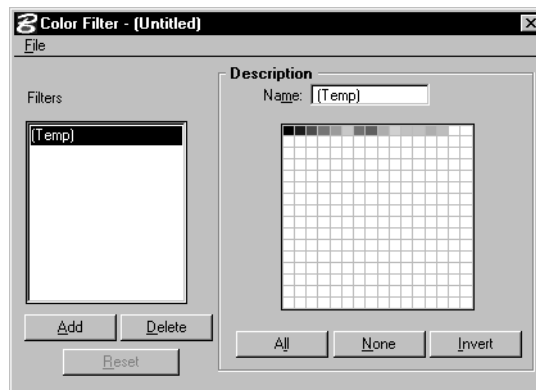
Color Filter Dialog tool

Color Filter opens the Color Filter dialog box (See “Color Filter dialog box” on page 10-5).

## Color Filter dialog box

Use the Color Filter dialog box to define or edit color filters and to manage filter files. A filter file contains one or several filters. The name of the filter file displays on the title bar of the dialog box.

Color Filter dialog box



### Filters list box

The Filters list box displays the names of all color filters contained in the color filter file. The selected name is the filter that will be created or edited.

The Temp color filter is always present. It is a temporary color filter that is used as an all-purpose filter. This filter can be edited but not deleted.

**Add**

Use Add to add a new color filter to the present list. Click Add to open a dialog box to enter the name of the new filter. The new name is added to the list and is displayed in the Description field. The Index list remains unchanged, which permits a new filter to be created by editing an existing one.

**Delete**

Use Delete to remove the highlighted color filter from the list.

**Reset**

Use Reset to reset the Index list of the selected color filter to its conditions at the time of the last Save or Add.

**Description**

This group of parameters and functions is used to display and edit the selected color filter, together with the Add to Filter and Subtract from Filter tools.

**Name (of the color filter)**

Name is used to display and edit the name of the color filter being edited.

**Index List Box, All, None and Invert**

Use Index List Box, All, None, and Invert to display and edit the index values that comprise the color filter being edited. Each check box displays the RGB color presently associated to the corresponding index. The complete set of indices represents the color palette of the active image.

There are various ways to turn indices on or off:

- Clicking an index turns it on or off.
- Clicking All turns on all indices.
- Clicking None turns off all indices.
- Clicking Invert turns all indices from on to off and from off to on.
- Using the Add to Filter tool turns on a selection set of indices (See “Add to Filter tool” on page 10-2).
- Using the Subtract from Filter tool turns off a selection set of indices (See “Subtract from Filter tool” on page 10-2).

## **File > New**

Select New from the File menu to close the open color filter file and set the Color Filter dialog box to its default status. If any filter has changed, you are asked if you wish to save the changes.

The Temp color filter is created with every new color filter file. It is a temporary color filter that is used as an all-purpose filter.

The Temp filter is highlighted in the list and its name is displayed in the Name field. All options in the index list are on. Untitled displays on the title bar of the Color Filter dialog box.

## **File > Open**

Select Open from the File menu to open the Select Filter dialog box to select and open a filter file. When a filter file is open, the name of the file displays on the title bar of the Color Filter dialog box, the list of the component filters displays in the filter list box, and the filter at the top of the list highlights.

## **File > Save**

Select Save from the File menu to save changes to all color filters to the corresponding file.

## **File > Save As**

Select Save As from the File menu to open the Save Filter File dialog box to save the filters in a new file. The name of the new filter file replaces the old file name on the title bar of the Color Filter dialog box.

