

# Masks

Masks let you isolate and protect areas of an image as you apply color changes, filters, or other effects to the rest of the image. When you select part of an image, the area that is not selected is “masked” or protected from editing. You can also use masks for complex image editing such as gradually applying color or filter effects to an image.

Masks and channels are grayscale images, so you can edit them like any other image. With masks and channels, areas painted black are protected, and areas painted white are editable. Masks let you save and reuse time-consuming selections as alpha channels. Alpha channels can store selections so you can use them again, or you can load a saved selection into another image.

Photoshop lets you create masks in the following ways:

## Quick Mask Mode

Lets you edit any selection as a mask. The advantage of editing your selection as a mask is that you can use almost any Photoshop tool or filter to modify the mask. For example, if you create a rectangular selection with the Marquee tool, you can enter Quick Mask Mode and use the paintbrush to extend or contract the selection, or you can use a filter to distort the edges of the selection. You can also use selection tools, because the quick mask is not a selection.

## Alpha Channels

Lets you save and load selections. You can edit Alpha channels using any of the editing tools. When a channel is selected in the Channels palette, foreground and background colors appear as grayscale values.

## Using Quick Mask Mode

To use Quick Mask Mode, start with a selection and then add to or subtract from it to make the mask. Alternately, create the mask entirely in Quick Mask mode. Color differentiates the protected and unprotected areas. When you leave Quick Mask Mode, the unprotected areas become a selection.

A temporary Quick Mask channel appears in the Channels Palette while you work in Quick Mask mode. However, you do all mask editing in the image window.

1. Using any selection tool, select the part of the image you want to change.

2. Click the Quick Mask Mode button in the toolbox. 


A color overlay covers and protects the area outside the selection. Selected areas are left unprotected by this mask. By default, Quick Mask Mode colors the protected area using a red 50% opaque overlay.

3. To edit the mask, select a painting tool from the toolbox. The swatches in the toolbox automatically become black and white.

4. Paint with white to select more of an image (the color overlay is removed from areas painted with white). To deslect areas, paint over them with black (the color overlay covers areas painted with black). Painting with gray or another color creates a semitransparent area, useful for feathering or anti-aliased effects (semitransparent areas may not appear selected when you exit Quick Mask Mode, but they are).



A. Opaque mask used to protect the background and edit the eagle. B. Opaque mask used to protect the eagle and edit the background. C. Semitransparent mask used to edit the background and part of the eagle.

5. Click the Standard Mode button in the toolbox to turn off the Quick Mask and return to your original image. A selection border now surrounds the unprotected area of the quick mask. 

If a feathered mask is converted to a selection, the boundary line runs halfway between the black pixels and the white pixels of the mask gradient. The selection boundary indicates the pixels' transition from being less than 50% selected to more than 50% selected.

6. Apply the desired changes to the image, affected only the selected area.

7. Choose Deselect from the Select Menu to deselect the selection, or Save Selection from the Select Menu to save the selection.

## Storing Masks in Alpha Channels

In addition to the temporary Masks of Quick Mask Mode, you can create more permanent masks by storing them in alpha channels. This allows you to use the masks again in the same image or in a different image.

You can create an alpha channel in and then add a mask to it. You can also save an existing selection in an image as an alpha channel that will appear in the Channels Palette.

## Creating Alpha Channels

1. Click the New Channel button at the bottom of the Channels Palette.

2. Use a painting or editing tool to paint in the image. Paint with black to add to the channel; paint with white to remove from the channel.

3. Click the eye icon next to a color (or composite) channel to display the image with a color overlay.

## Saving a Mask Selection

1. Select the area or areas of the image that you want to isolate.
2. Click the Save Selection button at the bottom of the Channels Palette. A new channel appears, named according to the sequence in which it was created.

## Loading a Selection into an Image

Select the alpha channel, click the Load Selection button at the bottom of the Palette, then click the composite color channel.

Adjustment Layers add another level of flexibility to working with Layers. Adjustment Layers allow you to experiment with color and apply tonal adjustments to an image. If you change your mind about the results, you can go back and edit or remove the adjustment at any time.

The color and tonal changes reside within the adjustment layer, which acts as a veil through which the underlying image layers appear. Keep in mind that an adjustment layer affects all the layers below it. This means that you can correct multiple layers by making a single adjustment, rather than making the adjustment to each layer separately.

## Creating Adjustment Layers

Adjustment layers have the same blending mode options as image layers and can be rearranged, deleted, hidden, and duplicated in the same manner as image layers. By default, adjustment layers have layer masks, as indicated by the mask icon to the left of the layer thumbnail.

*Note: To confine the effects of the adjustment layer to a selected area, make a selection. When you use a selection, you create an adjustment layer confined by a layer mask.*

1. Do one of the following:
  - a) Click the New Adjustment Layer button at the bottom of the Layers palette, and choose the layer type you want.
  - b) Choose New Adjustment Layer from the Layer menu, and choose an option from the submenu. Then name the layer, set other layer options, and click OK.
2. Choose from the following layer properties, and click OK:
  - Solid Color** Specify a color.
  - Gradient** Click the gradient to display the Gradient Editor, or click the inverted arrow and choose a gradient from the pop-up palette. Set additional options if desired.
  - Pattern** Click the pattern, and choose a pattern from the pop-up palette.
  - Levels** Specify values for the highlights, shadows, and mid-tones.
  - Curves** Adjust the intensity values of pixels along a 0-255 scale while keeping up to 15 other values constant.
  - Color Balance** Drag a slider toward a color you want to increase in the image; drag a slider away from a color you want to decrease in the image.
  - Brightness/Contrast** Specify values for Brightness and Contrast.
  - Hue/Saturation** Choose which colors to edit, hue and specify values for Hue, Saturation, and Lightness.
  - Selective Color** Choose the color you want to adjust, and drag the sliders to increase or decrease the components in the selected color.
  - Channel Mixer** Modify a color channel.
  - Gradient Map** Choose a gradient and set gradient options.
  - Photo Filter** Make color adjustments by simulating the effect of a filter in front of a camera lens.
  - Invert** Inverted adjustment layers don't have options.
  - Threshold** Specify a threshold level.
  - Posterize** Specify the number of tonal levels for each color channel.

## Editing Adjustment Layers

Once you create an adjustment layer, you can easily edit the settings, or dynamically replace it with a different adjustment type. You can also edit the mask of an adjustment layer to control the effect that the layer has on the image. By default, all areas of an adjustment layer are unmasked, and, therefore, are showing.

### To Edit an adjustment layer

1. Do one of the following:
  - a) Double-click the adjustment layer's thumbnail in the Layers Palette.
  - b) Choose Layer Content Options from the Layer Menu.
2. Make the desired adjustments, and click OK.

### To Change the Content of an adjustment layer

1. Select the adjustment layer that you want to change.
2. Choose Change Layer Content from the Layer Menu and select a different adjustment layer from the list.

**Merging Adjustment Layers** - You can merge an adjustment layer several ways: with the layer below it, with the layers in its own grouped layer, with the layers it is linked to, and with all other visible layers. You cannot, however, use an adjustment layer as the target layer for a merge. When you merge an adjustment layer with the layer below it, the adjustments are rasterized and become permanently applied within the merged layer.

Adjustment layers whose masks contain only white values do not add significantly to the file size, so it is not necessary to merge these adjustment layers to conserve file space.

## Layer Masks

You can use masks to protect sections of layers from being edited and to show or hide sections of an image.

Masks control how different areas within a layer or layer set are hidden and revealed. By making changes to the mask, you can apply a variety of special effects to the layer without actually affecting the pixels on that layer. You can then apply the mask and make the changes permanent or remove the mask without applying the changes.

There are two types of masks:

1. Layer masks are resolution dependent bitmap images that are created with the painting or selection tools.
2. Vector masks are resolution independent and are created with the Pen or Shape tools.

In the Layers Palette, both the layer and vector masks appear as an additional thumbnail to the right of the layer thumbnail. For the layer mask, this thumbnail represents the grayscale channel that is created when you add the layer mask. The vector mask thumbnail represents a path that clips out the contents of the layer.

# Layer Masks

You can obscure an entire layer or layer set, or just a selected part of it, using a layer mask. You can also edit a layer mask to add or subtract from the masked region. A layer mask is a grayscale image, so what you paint in the black will be hidden, what you paint in white will show, and what you paint in gray shades will show in various levels of transparency.

## To add a Mask that Shows/Hides the Entire Layer

1. Choose Deselect from the Select Menu to clear any selection borders in the image.
2. In the Layers Palette, select the layer or layer set to which to add a mask.
3. Do one of the following:
  - a) To create a mask that reveals the entire layer, click the New Layer Mask button in the Layers Palette, or choose Add Layer Mask > Reveal All from the Layer Menu.
  - b) To create a mask that hides the entire layer, Alt-click (win) or Option-click (mac) the New Layer Mask button or choose Add Layer Mask > Hide All from the Layer Menu.

## To add a Mask that Shows/Hides a Selection

1. In the Layers Palette, select the layer or layer set to which to add a mask.
2. Select the area in the image, and do one of the following:
  - a) Click the New Layer Mask button in the Layers Palette to create a mask that reveals the selection.
  - b) Choose Add Layer Mask > Reveal Selection or Hide Selection from the Layer Menu.

## To Edit a Layer Mask

1. Click the layer mask thumbnail in the Layers Palette to make it active.
2. Select any of the editing or painting tools.

*Note: The foreground and background colors default to grayscale values when the mask is active.*

3. Do one of the following
  - a) To subtract from the mask and reveal the layer, paint the mask with white.
  - b) To make the layer partially visible, paint the mask with gray tones.
  - c) To add to the mask and hide the layer or layer set, paint the mask with black.

To edit the layer instead of the layer mask, select it by clicking its thumbnail in the Layers Palette. The paintbrush icon appears to the left of the thumbnail to indicate that you are editing the layer.

## To Select and Display the Layer Mask Channel

Alt-click (win) or Option-click (mac) the layer mask thumbnail in the Layers Palette to select and display only the grayscale mask channel. The eye icons in the Layers Palette are dimmed because all layers or layer sets are hidden. To redisplay the layers, Alt click or Option click the layer mask thumbnail, or click an eye icon.

Hold down Alt+Shift (win) or Option+Shift (mac), and click the layer mask thumbnail to view the mask on top of the layer in a rubylike masking color. Hold down Alt+Shift or Option+Shift and click the thumbnail again to turn off the color display.

## To Disable or Enable a Layer Mask

1. Shift-click the Layer Mask thumbnail in the Layers Palette. -or-
2. Select the Layer with the Layer Mask you want to disable or enable, and choose Disable Layer Mask or Enable Layer Mask from the Layer Menu.

A red X appears over the mask thumbnail in the Layers Palette when the mask is disabled and the layer's content appears without masking effects.

## Unlinking Layers and Masks

By default, a layer or layer set is linked to its layer mask or vector mask, as indicated by the link icon between the thumbnails in the Layers Palette. The layer and its mask move together in the image when you move either one with the Move tool. Unlinking them lets you move them independently and shift the mask's boundaries separately from the layer.

Click the link icon in the Layer Palette to unlink a layer from its mask.

Click between the layer and mask path thumbnails in the Layers Palette to reestablish the link between a layer and its mask.

## Applying and Discarding Layer Masks

When you have finished creating a Layer Mask, you can either apply the mask and make the changes permanent or discard the mask without applying changes. Because Layer Masks are stored as alpha channels, applying and discarding Layer masks can help reduce file size.

1. Click the Layer Mask thumbnail in the Layers Palette.
2. To remove the Layer Mask and make changes permanent, click the Trash button at the bottom of the Layers Palette, and then click Apply.
3. To remove the Layer Mask without applying the changes, click the Trash button at the bottom of the Layers Palette, and then click Discard.

## To Load a Layer or Mask's Boundaries as a Selection

By loading a Layer Mask, you can quickly select all the opaque areas on a layer--that is, the areas within the layer boundaries. This is useful when you want to exclude transparent areas from a selection. You can also load the boundaries of a Layer mask as a selection.

- a) In the Layers Palette, Ctrl-click (win) or Command-click (mac) the Layer or Layer Mask thumbnail.
- b) To add the pixels to an existing selection, press Ctrl+Shift (win) or Command+Shift (mac), and click the Layer or Layer Mask thumbnail in the Layers Palette.

- c) To subtract the pixels from an existing selection, press Ctrl+Alt (win) or Command+Option (mac), and click the Layer or Layer Mask thumbnail in the Layers Palette.

- d) To load the intersection of the pixels and an existing selection, press Ctrl+Alt+Shift (win) or Command+Option+Shift (mac), and click the Layer or Layer Mask thumbnail in the Layers Palette.

# Type Tool

There are four options in the Type sub-menu: Horizontal Type, Vertical Type, Horizontal Type Mask, and Vertical Type Mask Tools.



When you select the type tool in the toolbox, your cursor will change to an I-beam pointer. A small line across the I beam marks the location of the type's baseline. For vertical type, it marks the center axis that the type will be created along.

The type tool's options bar will appear as soon as you select the tool. You can set the type's options before you click in the image to add type.

## Adding Type to an Image

While you are adding or editing type, the options bar will change to be in edit mode. Type may be edited by drag-selecting and applying new options. If you move the cursor a little ways away from the type you've added, the pointer becomes the move tool, and type can be repositioned.

Each time you use the type tool, a new layer is created with that text on it. Any of the layer styles, or other layer options can be applied to type layers.

You can do anything with a type layer that you can do with a regular layer such as duplicating it, changing the stacking order, applying layer effects and styles, and changing layer opacity. However, some of the Photoshop features will not work on a type layer. For example, if you want to apply filters to your type, you will need to first turn the type layer into a regular layer. After you've done this, the type becomes part of the image and cannot be edited as type any more. To turn a type layer into a regular layer, select the layer in the Layers Palette, and then choose Rasterize > Type from the Layer Menu.

## Point Type

Click in the image to add point type. Point type enters the text in a line from the point where you first click. Line breaks may be created by pressing Enter, but otherwise, the type does not wrap. If you have difficulty positioning point type exactly where you want it, apply it (click the big check box) and then move it with the move tool. To do this, be sure you've selected the type layer which has the type you want to move, then choose the move tool in the toolbar. Drag, or press the arrow keys to move the text layer in one pixel increments.

## Paragraph Type

Click and drag to create a bounding box for Paragraph type. Text will wrap to stay within the box. If you add more type than will fit within the box, it will be indicated by an overflow icon, and the overflow type will not show in the image. Resizing the text box by dragging a corner will allow the overflow text to show. Pressing Enter creates a new paragraph, not a line break, in paragraph text.

## Type Mask

The type mask tool creates a selection outline in the shape of the letters typed. You can do anything with that outline that you can do with any other selection. Unlike the regular type tools, this one does not appear on its own layer. The type is added to the current, active layer. It is preferable to use this tool on an image layer, and not any type layer that you may have added previously.

## Type Options

The first icon after the tool icon on the left end of the options bar will change horizontal type to vertical or vice versa.



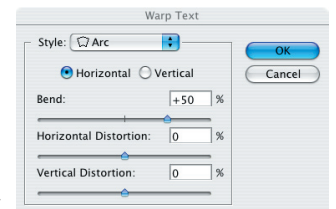
The box showing Courier is your font family menu, next to it is the style menu for choosing regular, bold, italic, etc. Next, is the text size box.

The box titled aa and showing an entry of Crisp is for choosing an anti-aliasing option. This will smooth the jagged edges on curvy parts of text. Different fonts, image resolutions, and type sizes will look best with different settings for anti-aliasing.

To the right of anti-aliasing options are the alignment buttons, then the color box, with the color white selected. To pick another color, click on the color box and the color picker will appear. Next is the Warp text button, and last is the Palettes button.

## Warping Type

Clicking on the warp text icon on the options bar will open the Warp Text dialog box, where you choose a warp Style, and tinker with the way that style is applied by playing with the sliders. As soon as you choose an option from the Style menu, the options will become active. Type warping affects the entire type layer to which it is applied. It can be edited or removed at any time.



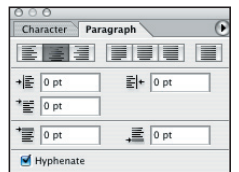
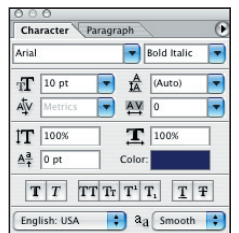
## Character and Paragraph Type Palette

In the Character Palette, the items are fonts, style, type size, leading, kerning, tracking, vertical scale, horizontal scale, baseline shift (used for creating superscript and subscript), color, faux bold, faux italic, all caps, small caps, superscript, subscript, underscore, strike through, language, and anti-aliasing.

In the Paragraph Palette, the items are alignment, left indent, right indent, first indent, space before, and space after.

Hyphenation and justification have been moved out of the palette and into their own dialogs. Find them by going to the Paragraph Palette Menu and choosing the option.

To accept your added type, you must click the check mark at the right end of the options bar to exit edit mode. You can also press Enter in the numeric keypad, or press Ctrl-Enter on the regular keyboard to accept the type. To get out of edit mode without adding type or applying edits, click the round cancel button, or press the Esc key on your keyboard.



# Printing

Because your monitor displays an image using light and a printer reproduces an image using inks, dyes, or pigments, it is impossible for a desktop printer to reproduce all the colors that can be displayed on a monitor.

## Printing Commands

- Page Setup and Print display options that are determined by your printer, print drivers, and operating system.
- Print with Preview displays Photoshop's printing, output, and color management options.
- Print One Copy prints one copy of a file without displaying a dialog box.

## To Print an Image with its Current Options

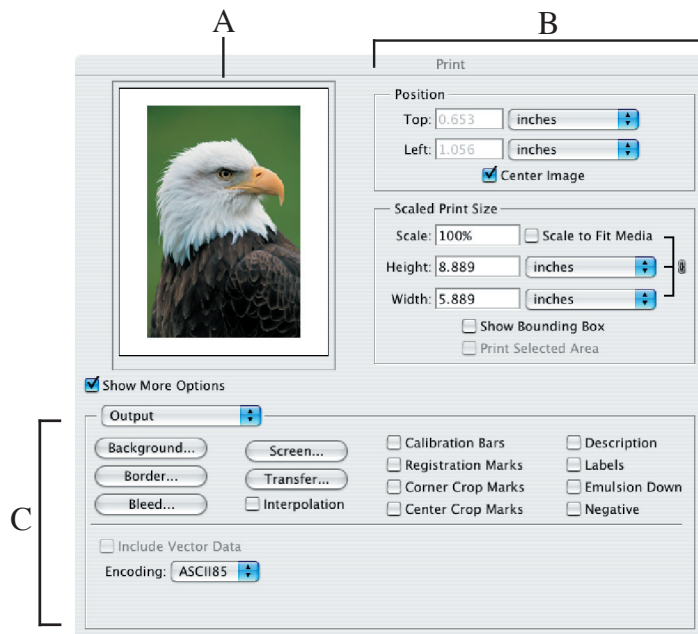
Choose Print from the File Menu, and click Print or OK.

*Note: By default, Photoshop prints a composite of all visible layers and channels. To print an individual layer or channel, make it the only visible layer or channel before choosing the Print command.*

## To Set Printer and Page Setup Options

- Choose Page Setup from the File Menu.
- Select a printer from the pop-up list at the top of the dialog box.
- Set additional options such as paper size and layout, as desired. The available options depend on your printer, print drivers, and operating system.

If you plan to scale the printed image, choose the Print with Preview Command and use the scaling options in the Print dialog box rather than the Page Setup dialog box. The Print with Preview dialog box is more helpful because it shows you a preview of the scaled image. Also, you don't want to set the scaling options in both the Page Setup and Print dialog boxes. This applies scaling twice, and the resulting image may not print at the size you intend.



A. Preview print. B. Position and scale image settings. C. Specify options to prepare a file for prepress.

- Choose Print with Preview from the File Menu.
- Make sure Show More Options is selected. Then do one or more of the following:
  - Adjust the position and scale of the image in relation to the selected paper size and orientation.
  - Set the Output Options.
- Do one of the following:
  - Click Print to print the image.
  - Click Cancel to close the dialog without saving the options.
  - Click Done to preserve the options and close the dialog box.
  - Hold down Alt (win) or Option (mac) and click Print One to print one copy of the image.
  - Hold down Alt (win) or Option (mac) and click Reset to reset the print options.
  - Hold down Alt (win) or Option (mac) and click Remember to save the print options without closing the dialog box.

## Positioning and Scaling Images

The shaded border at the edge of the paper represents the margins of the selected paper; the printable area is white.

The base output size of an image is determined by the document size settings in the Image Size dialog box. Scaling an image in the Print with Preview dialog box changes the size and resolution of the printed image only. For example, if you scale a 72 ppi image to 50% in the Print with Preview dialog box, the image will print at 144 ppi; however, the document size setting in the Image Size dialog box will not change.

## To Reposition an Image on the Paper

Choose Print with Preview from the File Menu, and do one of the following:

- Select the Center Image option to center the image in the printable area.
- Deselect the Center Image option and then enter values for Top and Left to position the image numerically.
- Deselect the Center Image option and then drag the image in the preview area.

## To Scale the Print Size of an Image

Choose Print with Preview from the File Menu, and do one of the following:

- Click Scale to Fit Media to fit the image within the printable area of the selected paper.
- Enter values for Height and Width to rescale the image numerically.
- Select Show Bounding Box, and drag a bounding box handle in the preview area to achieve the desired scale.