

Layers Basics

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Layers were introduced with Photoshop 3 and revolutionized Photoshop. Layers has many functions and takes time to master. Layers are not difficult once you understand how they function. This document attempts to explain concepts behind layers and describe the features.

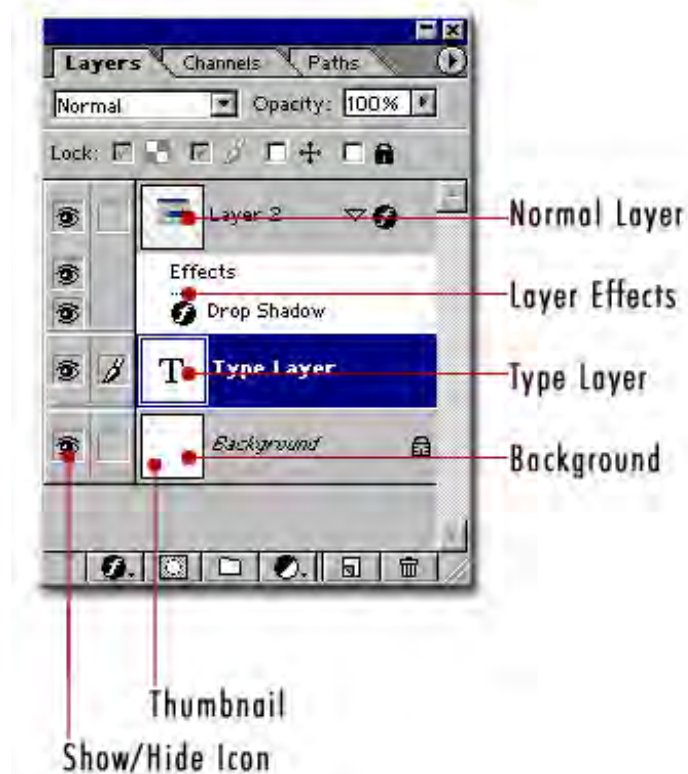
What is a Layer?

A layer is simply an image stacked on top of another. Take a piece of paper and paint it red, then take a piece of see through material, such as cellophane, and paint an object in green, and lay it over the paper. Then take another piece of see through material and paint red characters and place that on top of the object. We now have a background (red) and 2 layers (green object, and red characters).

The concept of layers is simple. Photoshop has a Layers Palette to allow you to do this with images. More than one layer is many times called a composition. Photoshop's layers Palette allows you do many special things to your compositions.

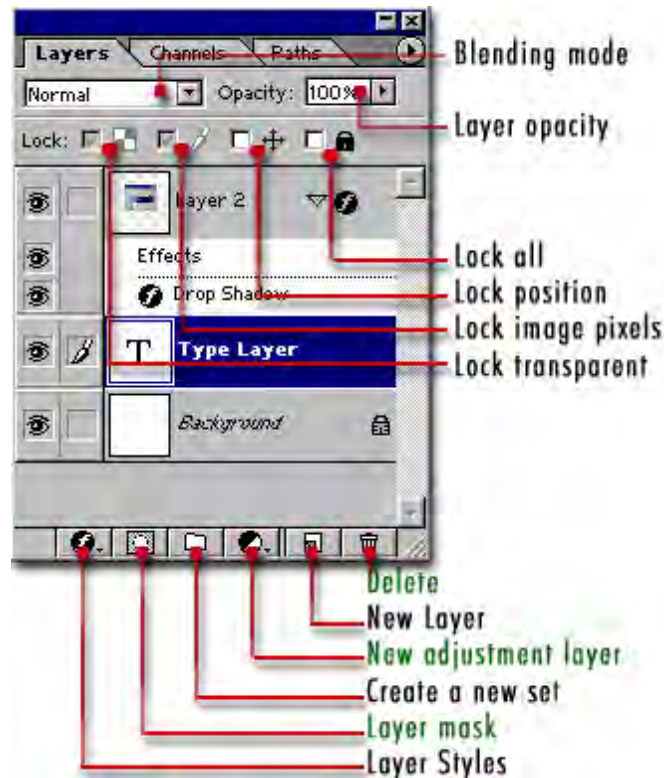
Layer Facts

- Layers are like overhead transparencies; you can see through areas of transparency where there is no visual information.
- Each layer can have different visual information.
- Graphical information becomes cumulative as layers are stacked, making a complete image.
- Each layer can be manipulated independently.
- The Layers Palette lists layers from top to bottom.
- When a new image is created with a white or colored background, a new background is created.
- A background is not a layer, it will show up as the bottom image in the palette.
- An image is limited to a single background.
- Choosing Transparency from the Contents option when creating a new image creates a new layer (not background) and places it as the bottommost layer in the palette.
- Clicking on a specific layer within the palette selects that layer.
- The Layer Style dialog box includes many styles that can be applied to a layer.
- Styles can be modified by adjusting their settings.



The Layers Window.

- Show/Hide Icon: If the eye is showing the layer is visible. Click on the eye - the layer will still be there but invisible until you click the eye again.
- Thumbnail: A small image of the layers contents.
- Background: Always locked, cannot be moved or have layer effects applied. The icon of the padlock on the right, indicates it is locked. The background layer may be changed to a regular layer by double clicking on the thumbnail.
- Normal Layer: Where the image layer is stored
- Layer Effects (*i.e. Styles*): Special effects applied to your image. Note the little f. Each effect is listed. Multiple effects may be used at once.
- Type Layer: The same as an image layer, except this layer contains type that can be edited; (Change character, color, font or size)



The Layers Palette

- Layer highlighted – This layer is currently selected
- Blending mode: Alters the way the layers interact.
- Layer opacity: Adjusts the transparency of each layer. 0 is transparent, 100 is opaque.
- Lock transparent: Can paint on this layer but not in transparent areas.
- Lock Image pixels: Cannot draw on this layer if checked.
- Lock Position: Can make changes except for moving the image.
- Lock all: If the box is checked the layer is protected from editing.
- Layer styles: Special layer effects.
- Layer mask: Allows painting away parts of layers without altering the original image. “Black reveals, white conceals.”
- Create a new set: Allows organizing layers into folders.
- New Adjustment layer: Allows non-destructive adjustment of colors to a layer. (Can be undone, even after closing a document)
- New Layer: Click to add a blank layer, or drag an existing layer thumbnail to create a duplicate Delete: Deletes an entire layer. Drag the thumbnail to the icon, or select the layer and click on the trash can icon.

Creating Layers

There are several ways to create a layer:

1. Start with the layer information provided when an image document is initially created and then discover other ways of creating layers. The **Contents** section of the New Image dialog box includes buttons for selection of: White, Background Color, or Transparent.

Transparent creates a new layer (not background) and places it in the Layers Palette's bottommost layer.

Either **White** or **Background Color** creates a new background, which does not include functionality of layers (cannot change / adjust stacking order).

2. A background can be changed to a layer. To convert a background to a layer:

- Double-click the background within the Layers Palette.
- Enter a new name for this layer.
- Adjust color, mode, and opacity settings, if desired.

Layer > New > Layer from Background

3. A new layer can be created by selecting a portion of an image, then via copying and pasting. The copied portion becomes a new layer.

4. An empty layer can be created by clicking **Create a New Layer** () at the bottom of the palette, or by:

Layer > New > Layer

6. An empty layer can also be created by clicking the palette menu (upper right) and selecting **New Layer**.

Layer Types

Layers add flexibility when creating images. There are several different **types** of layers that can be created.

- **Mask Layers** — Allows special effects to be added to areas within a layer without affecting pixels on a layer. The mask can be permanently applied to the layer *or* removed without impacting the layer.
- **Fill Layers** — Permits a layer to be filled with solid colors, a gradient, or a pattern.
- **Adjustment Layers** — Allows for experimentation with color. ...

Selecting Layers

Many Photoshop images have many layers. To edit a particular layer, that layer must be *selected*. Once a layer is selected, changes impact *only* that layer. Two ways to select a layer are:

- Click the layer in the palette.

- Select the Move Tool and place a check in the Auto Select Layer box in the Options Palette. Place the cursor over an image area and click to select the layer with which pixels that are "clicked" are associated.

Stacking Order

The order layers are stacked in within the palette is important. It determines which layer appears to be "on top," second, third, etc.

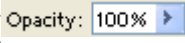
To change the stacking order of the layers in the palette:

- Select a layer and drag to a new location in the stack. The outline of the layer box moves as you drag a layer to a new location.
- Release the mouse when repositioned.

Layer Opacity

Photoshop allows adjustment of a layer's transparency. A setting of 0% sets the layer to transparent. If opacity is set to 100, the layer is opaque.

To adjust opacity:

- Select the layer to be adjusted.
- In the palette, click the arrow next to opacity () to open the slider.
- Move the opacity slider to the desired percent. The effect is visible

Linking Layers




Linking layers allows the selected layer to be modified and have modifications affect all layers linked to it. To link layers:


- Select layers.
- Click Link Layers icon. A chain link will appear on the right of linked layer's.

To **remove the link between layers**, click on the chain link icon of the linked layers.

Locking Layers

Individual layers can be **locked** to protect their content from editing. Photoshop provides many lock levels. The **layer lock options** are found above the layer thumbnail area of the palette.

- **Lock Transparent Pixels** ()
Locks all transparent pixels within a layer and only allows colored pixels to change.
- **Lock Image Pixels** ()
Locks colored pixels within a layer and only allows transparent pixels to change.
- **Lock Position** ()
Locks the position of a layer.

- **Lock All** ()
Prevents changes to the layer content, but the layer's stacking order can be changed.

Flattening Layers

Images saved for use as JPG images, or GIF or for web usage, do not include layer information. Images created in Photoshop and saved as GIF or JPEG must have the image layers flattened. **Flattening** merges *all* layers into the background layer, which will generally reduce the file size. An image isn't flattened until it is in final form. Because once an image is flattened, you lose control over individual layers.

To **flatten layers**:

- Layers > Flatten Image

In addition to flattening image layers, Photoshop provides a method to **merge** selected layers. This is nice if you aren't ready to flatten the *entire* image, but feel OK with combining several layers into one. There are several options within the palette Menu for dealing with this. The options change, based on layer specifics:

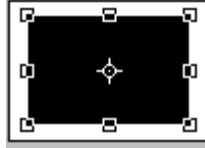
- **Merge Visible** - combines all visible layers. Ensure individual layers to be merged are visible.
- **Merge Linked** - combines selected layer and layers linked to it.
- **Merge Down** - combines all layers below the selected layer.
- **Merge Layer Set** - combines layers within a layer set.
- **Merge Layers** - combines selected layers.

Transforming Layers

Photoshop provides several options that can be applied to layers via Edit. Transformations include the following:


- **Scale** — Increase or decrease size of a selection vertically or horizontally or both, relative to a designated point
- **Rotate** — Rotates selection by rotating a selection around a reference point
- **Skew** — Skews selection by slanting it vertically or horizontally
- **Distort** — Distorts selection by stretching in all directions
- **Perspective** — Changes perspective of selections
- **Rotate 180°** — Rotates selection 180 degrees
- **Rotate CW 90°** — Rotates selection clockwise 90 degrees
- **Rotate CCW90°** — Rotates selection counter-clockwise 90 degrees
- **Flip Horizontal** — Flips selection horizontally
- **Flip Vertical** — Flips selection vertically

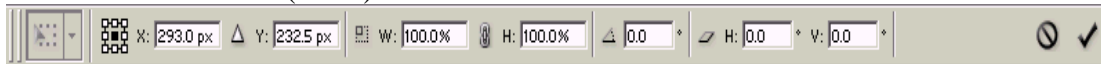
IMPORTANT: The first five Transformation options place a **reference point** in the center of a selection. As well, a bounding box (looks like handles) is placed around the selection



To **transform a layer or a selection from a layer**:

- Select the layer or selection to be transformed.
- Choose the transformation type:
- Edit > Transform > select the transformation option
- Set a reference point by selecting the desired point from the Reference Point


Location area () of the Transformation.



Layer Styles

Layer styles are special effects that may be applied to a layer. Photoshop provides many styles including: drop shadow, inner shadow, outer glow, inner glow, bevel and emboss, satin, color overlay, gradient overlay, pattern overlay, and stroke. These styles are available via Layers menu or the layers palette. When a style is applied, the style name appears in the palette below the name of the layer.

Each of the styles have default settings. Settings can be adjusted via the **Layer Styles** window. To **apply a layer style**:

- Select the layer to which the style will apply.
- Click-add a Layer Style ().
- Choose the layer style.
- Confirm or adjust settings.

Blending Layers (Blend Mode)

Photoshop has 23 different ways to mix the pixels of an active layer with the layers below it. These are known as the Blend Modes. With this many modes we will never remember them all so we will only look at a few for now that are commonly used and easy to remember.



Choosing blend mode from Layers Palette

- Normal – is the mode that we have shown so far. The only place where you see anything from the layers below is where the opacity is less than 100%.
- Multiply Mode is probably the worst of the names of any blend mode because it is not intuitive what it does. The Multiply blend mode is the same as making a montage of two slides and then projecting them. Any place on the slide which is clear all of the light gets through. Any place that is dark blocks the light. As a result any area that is light in both the active layer and the layer below stay light. Any are of the slide that is dark will make the final image darker.



Normal

Multiply

Notice the light areas stay bright but shaded areas get darker.

- Screen Mode is a name that makes it easy to remember. Picture having two projectors side by side shining on the same screen with the active layer in one projector and the background in the other. Bright areas will not get any brighter and the darker areas will get lighter.



Normal

Screen

The dark areas have gotten a lot lighter.

- Overlay Mode can be thought of as a mix of Multiply and screen. This mode does the equivalent of Multiply mode to the dark areas and Screen mode to the light areas, The lighter areas will get lighter, while the darker areas will get darker.



Normal

Overlay

The lights have gotten lighter and the darks are darker.

- You can have different images in the layers so your imagination is the only limit on how you can use blend modes creatively. You can create montages of images with of kinds for different effects.



Image

Foil

Overlay



The same image and foil using the Dissolve blend mode.



This image has a background, a copy of the background that has been blurred and mixed with the multiply blend mode.

The best way to learn how to use blend modes creatively is to play with them seeing what effects you can create.