

Introduction to Photoshop

Pixel Editing Tools Part 2

Conventions

Keyboard command sequences will be within <[and]>. Keyboard command sequences will mix both Mac and PC, for example <[Command/Control+j]> means:
On a Mac do <[Command+j]>
On a PC do <[Control+j]>

Most, but not all of the pixel editing tools use the Brush tool as their basis, and therefore the keyboard commands to adjust brush diameter and softness will work on these tools as well. When using the Brush tool, using the keyboard commands to adjust diameter and softness will save you a lot of time. To adjust the size (diameter) of the brush, you use the left or right bracket key (the [or] key); the left bracket key [will reduce the size of the brush, the right bracket key] will enlarge the size of the brush. To vary brush softness in steps of 25% increments, use the left or right curly bracket key (the { or } key); the left curly bracket makes the brush edge softer in 25% steps (100%, 75%, 50%, 25%, 0%) while the right curly bracket makes the brush edge harder in 25% steps (0%, 25%, 50%, 75%, 100%). You can also use a slider to dial in both size and edge softness.

***** SLIDE 3 References

Scott Kelby, How Do I Do That In Photoshop, Chapter 1
Robin Whalley, Essential Photoshop, Chapters 1, 4

***** SLIDE 4 Pixel Editing Tools: Eraser set

The Eraser tool set has three tools that all do the same thing: turn pixels that have color information transparent.

The Eraser tool is the default and can be used in three modes: brush, block, or pencil. The majority of the time you will be using it as either a brush (where it conforms to the brush tool key strokes for size and softness) or a block.

The Background Eraser tool is used to remove backgrounds with a mostly uniform pixel information, such as a blue sky.

The Magic Eraser tool is the Magic Wand tool coupled with the Eraser: it uses the Magic Wand tool options parameters to select a region of pixels within a tolerance range and turns them transparent.

***** SLIDE 5 Pixel Editing Tools: Paint Bucket / Gradient set

The Paint Bucket / Gradient tool set has three tools, two of which you will use in class:

The Paint Bucket tool: this tool will alter the pixel color information to match the foreground color swatch. If you have a transparent layer, all pixels will change color when the paint bucket tool is applied.

The Gradient tool: using this tool you can create multi-colored gradients of different styles. Gradients are especially useful in layer masks. Photoshop provides many default gradients which you can modify or you can create your own gradients. The adjustment layer Gradient Map uses the Gradient Tool to map the gradient over the image (dark colors of the gradient to dark colors of the image / light colors of the gradient to light colors of the image).

The 3D Material Drop Tool: not used in class.

***** SLIDE 6 Pixel Editing Tools: Sharpness set

The Sharpness tools perform targeted alteration of sharpness on an image. You may find these tools useful to do specific targeted sharpening / blurring.

The Blur tool: this tool will cause the pixels to blur and decreases contrast along pixel edges.

The Sharpen tool: this tool will cause increased contrast along pixel edges; this contrast adjustment fools the brain to think that the image is sharper. This tool can, however, quickly cause sharpening artifacts and should therefore be used cautiously.

The Smudge tool: this tool will act like the Blur tool, except that if you have Fingerpainting toggled on then at the start of the stroke whatever color is in the foreground color swatch will be deposited and smeared out along the path and length of the stroke. Use short strokes to mimic fingerpainting.

***** SLIDE 7 Pixel Editing Tools: Tonality set

The Tonality tools take their name from darkroom techniques to alter the tonality of the image on the photographic paper as it is exposed with the projection from the negative.

The Dodge tool: this tool will dodge or make pixels lighter.

The Burn tool: this tool will burn or make pixels darker.

The Sponge tool: this tool will either saturate or de-saturate pixel color values.

***** SLIDE 8 Working With Pixel Tools

There are some ground rules when working with any of the pixel editing tools:

1. Pixel editing tools always do destructive (alter pixel color information) edits on the currently active layer. Therefore, any edits done with any of the pixel editing tools should be done on a copy of the layer you want to adjust. Remember to do a <[Command/Control+j]> to duplicate the currently active layer.
2. Most of the time you will be using a soft-edge brush, especially when dealing with flesh / skin tones, fur, hair, etc. The atmosphere has dust and moisture which scatters light, which result in even object that have a hard edge looking just a little fuzzy. The only time you'll be using a hard edge brush is if you're working along hard edges and need that abrupt transformation.
3. <[Command/Control+z]> is your best friend; this will undo the last action in Photoshop that you just did in case you made a mistake painting with the brush - and it will happen, especially when using a mouse which is not the preferred input device when working with the brush tool - under the ideal situation you would be working with a Wacom (or other) input tablet and using a specialized pen to paint and draw. If you have gone past the immediate action and want to go backwards multiple steps, you can use the History panel or by using <[Option+command+z / Alt+ctrl+z]> to go back multiple steps. If you went too far backwards, <[Shift+command+z / shift+ctrl+z]> will move you forward again.

***** SLIDE 9 Working With Pixel Tools: Eraser Tools

Note: the red items are the ones that I normally use when working in Photoshop.

The option bar for the Erase tools modify how the tools work.

Eraser tool:

- Mode
- Brush: can adjust size, hardness, opacity, and flow.
- Pencil: can adjust size, hardness, and opacity.
- Block: square block, no adjustments. The only way to improve the granularity of the Eraser Block mode is to zoom in on the image until you see the individual pixels.

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Background Eraser

***** IMPORTANT NOTE *****

The Background Eraser tool will OVER-RIDE the transparency lock of a layer.

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- Sampling

- Continuous: Photoshop will continue to sample under the crosshair of the eraser as the brush is moved.
- Once: Photoshop will sample only the initial pixels under the crosshair of the eraser and will only remove those pixels that are similar in color.
- Background Swatch: select a background swatch that has a color similar to the one you want to erase, fine tune the color via the Tolerance value.

- Limits

- Contiguous: only erase pixels in areas that physically touch the pixels under the crosshair
- Discontiguous: erase pixels anywhere that match the color under the crosshair
- Find Edges: like contiguous but better at maintaining fine edge detail

- Tolerance

- Amount (percentage) of color range to expand; the higher the number the greater the color range

- Protect Foreground Color (toggle)

- If the color of the foreground is close in tone & color to the background, use the Eyedropper tool to select the foreground color that you want to protect, then in the Eraser tool option toggle Protect Foreground Color - the tool will not erase color that matches the foreground color swatch.

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Magic Eraser

- Tolerance (percent): see above
- Anti-alias (toggle): smoothing around curves
- Contiguous (toggle): see above

- Sample all layers (toggle): sample either all layers or just currently active layer
- Opacity (percent): how transparent to make the erasure

***** SLIDE 10 Working With Pixel Tools: Gradient / Paint Bucket

Gradient tool: applies a multi-colored gradient to a layer, double-clicking on the gradient selector in the option bar allows you to load in different gradients or create your own

- Miniature gradient: double-click to edit the gradient
- Down arrow next to mini-gradient: open gradient picker where you can add in Photoshop preset gradients to the default set
- Gradient styles (left to right): Linear, Radial, Angle, Reflective, Diamond
- Mode: layer blending modes
- Opacity (percent): how transparent to make the gradient
- Reverse (toggle): reverses direction of gradient
- Dither (toggle): apply dither to reduce banding
- Transparency (toggle): draw with the gradient's mask

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Paint Bucket tool: applies the foreground color swatch to similarly colored areas on a layer, or will fill a selection with the foreground color

- Foreground / Pattern (drop down menu): paint either with foreground color or pattern
- Mode: layer blending modes
- Opacity (percent): how transparent to make the gradient
- Tolerance (percent): color range to replace
- Anti-alias (toggle): smoothing around corners
- Contiguous (toggle): only paint pixels in areas that physically touch the pixels under the crosshair
- All Layers (toggle): paints across multiple layers of composite image

***** SLIDE 11 Working With Pixel Tools: Sharpness tools

The effects that the tools create can be quite strong, so it is recommended that you start with a strength of 50%. If you repeatedly paint over a specific area you will increase the effect.

Blur tool: blurs hard edges, blends pixel information

- Mode: subset of layer blending modes
- Strength (percent): how strong to make the blurring effect
- Sample All Layers (toggle): samples information from all layers

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Sharpen tool: increases contrast along edges

- Mode: subset of layer blending modes
- Strength (percent): how strong to make the sharpening effect
- Sample All Layers (toggle): samples information from all layers
- Protect Detail (toggle): minimizes pixelation while preserving details

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Smudge tool: similar to blur tool

- Mode: subset of layer blending modes
- Strength (percent): how strong to make the smudging effect
- Sample All Layers (toggle): samples information from all layers
- Finger Painting (toggle): applies foreground color to start of stroke

***** SLIDE 12 Working with Pixel Tools: Tonality set

These three tools replicate darkroom techniques. The effects that the tools create can be quite strong, so it is recommended that you start with an exposure / flow value of 50%. If you repeatedly paint over a specific area you will increase the effect.

Dodge tool: selectively lightens image

- Range (drop down menu): range of tones to affect: Shadows, Midtones, Highlights
- Exposure (percent): how strong to make the blurring effect
- Protect Tones (toggle): minimizes clipping in shadows and highlights (no absolute blacks or whites)

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Burn tool: selectively darkens image

- Range (drop down menu): range of tones to affect: Shadows, Midtones, Highlights
- Exposure (percent): how strong to make the blurring effect
- Protect Tones (toggle): minimizes clipping in shadows and highlights (no absolute blacks or whites)

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Sponge tool: saturate / desaturate colors

- Mode: Desaturate (remove colors), Saturate (bold colors)
- Flow (percent): rate of saturation change

-- Vibrance (toggle): minimizes clipping for fully saturated / desaturated colors

***** SLIDE 13 Working With Pixel Tools: Dodge / Burn guide

This is a rough guide on how to use the Dodge and Burn tools and, more specifically, what ranges you should use the specific tools on to achieve a desired effect.

Lighten deep shadows: Dodge midtones or highlights
Lighten dark midtones: Dodge highlights or shadows
Lighten gray highlights: Dodge midtones

Darken white highlights: Burn midtones or shadows
Darken pale midtones: Burn highlights or shadows
Darken gray shadows: Burn midtones

These examples may seem counter-intuitive, after all, if I want to darken gray shadows it seems intuitive to burn the shadows and not midtones. However, what you want to do is keep the information in the shadows there - burning shadows will turn them black with no information, something you don't want. Likewise, you rarely burn highlights, for it turns them gray. Do so cautiously. Remember that with dodging and burning you are selectively making tonality adjustments to effect the overall tonality of the image.

***** SLIDE 14 Working With Pixel Tools: Sponge tool

Sponge tool: saturate / desaturate colors
-- Mode: Desaturate (remove colors), Saturate (bold colors)
-- Flow (percent): rate of saturation change
-- Vibrance (toggle): minimizes clipping for fully saturated / desaturated colors

***** SLIDE 15 Working with Pixel Tools: Edit menu items

The Edit menu has some items that will also have an affect on pixel information. Some of the menu items are here.

- Fill: this will fill the currently active layer or selection with a color or pattern.
- Fill options:
 - Colors: foreground or background color, black, white, 50% gray
 - Content: content aware fill, pattern fill, history fill (fill with a selected history state)
 - Blending modes, opacity, preserve transparency
- Stroke: put an x pixel stroke around a selection

- Stroke options:
- Size and color: size of stroke in pixels and color
- Location: inside selection, centered on selection
marching ants, outside selection
- Blending modes, opacity, preserve transparency

Note: if you have a rectangular marquee selection and want the corners to be sharp and square (not smooth and rounded), set the location of the stroke to Inside.

***** SLIDE 16 Working with Pixel Tools: Edit menu items

- Free transform: scale and rotate a layer / selection by using the selection points (at corners and center horizontally and vertically)
- keyboard shortcut is <[Command / Control + t]>

- Transform: selective transformations
- Scale: scale horizontal / vertical - hold <[Shift]> key to constrain and maintain aspect ratio
- Rotate: rotate - hold <[Shift]> key to constrain to 45 degree shifts
- Skew: shift side to side
- Distort: variant of skew
- Perspective: the "Star Wars" entrance skewing
- Warp: selective curvature
- Rotate CCW/CW 90d / 180d: rotate by 90 or 180 degrees CCW or CW
- Flip Vertical / Horizontal