
BLACK AND WHITE IMAGING

To convert a color image to black and white, or a selective color(s).

Hint: always capture an image in RGB.

Black & White Conversion Techniques

• Grayscale

Convert to black and white image from RGB by simulating the sensitivity of the eye: 30% Red + 59% Green + 11% Blue.

1. Image > Mode > Grayscale
2. Image > Mode > RGB

Pro: not much.

Con: either you like it or you don't. Some filters don't work in Grayscale (convert back into RGB).

• Hue/Sat

Consider setting Saturation slightly higher for a color tint.

1. Layers palette > Hue/Sat adjustment layer > Sat = -100

Pro: fast and easy.

Con: either you like it or you don't.

• Desaturate

Same as setting Hue/Sat > Saturation = -100.

1. Image > Adjust > Desaturate

Pro: fast and easy.

Con: either you like it or you don't.

• Luminosity Mask

This luminosity mask often does a good job of creating a black and white image.

1. Channel palette > ctrl+clk on the RGB channel
2. Select > Save Selection
3. Channel palette > select new channel only

Pro: moderately fast and easy, good image.

Con: no flexibility.

• Channel

Select between 100% Red or 100% Green or 100% Blue.

1. Channels palette > Menu > Split Channels > select the best looking channel-file and delete the other files
2. Image > Mode > RGB

Pro: you have three choices to choose from.

Con: either you like one of them or you don't.

• Calculations

Mix various channels with different Blend modes.

1. Image > Calculations

Pro: provides great flexibility.

Con: takes more time, not intuitive.

• Channel Mixer

Select a specific contribution of the Red, Green, and Blue channels.

1. Layers palette > Channel Mixer adjustment layer > set Monochrome, set sum of R, G, & B channels = 100% Custom Monochrome Conversion,

1. Channels palette: look at all 3 channels for detail (green is usually best), noise (blue is typically worst); return to RGB

2. Add a Channel Mixer adj layer; clk Mono, all channels = 0

3. Increase "best" channel and then the "middle" channel, and possibly not involving the "worst" channel

4. Have the sum of the 3 channels approximate 100%

Pro: provides great flexibility.

Con: takes more time than a simple conversion.

Simulations:

-- Yellow Filter: 12%R + 74%G + 12%B + 4%Constant

-- Red Filter: 56%R + 18%G + 28%B + 4%Constant

• Double Hue/Sat

1. Layers palette > add Hue/Sat adjustment layer in Color Blend mode

2. Add another Hue/Sat adjustment layer in Normal Blend mode and Sat = -100

3. Vary the sliders, especially Hue, in the Color Blend layer and try with Colorize set or reset

Pro: provides great flexibility, much more fun.

Con: takes more time than a simple conversion.

• Layer Mask

1. Layers palette > duplicate image, desaturate

2. Add a Layer Mask to selectively remove color

Monochrome Techniques

• Hue/Sat - Colorize

1. Layers palette > Hue/Sat adjustment layer > set Colorize, set sliders to select color

To create a sepia effect, try Hue=25, Sat=17, Lightness=0, or for a more subtle effect, Hue=50, Sat=12, Lightness=0.

To restore color to the bright areas, add a Layer Style to Hue/Sat, select Blending Options, move This Layer's right slider to the left.

• Solid Color

Hue/Sat can't colorize pure-black pixels, this does.

1. Desaturate Image

2. Layers palette: add a Solid Color adjustment layer set to Color or Screen blend mode

3. Reduce opacity

Simulations

• Split Tone Color Balance

To create a split-tone based upon the image's brightness: shadows become one color, highlights become another color.

1. Desaturate image
2. Color Balance adj layer set to Shadows, select shadow color
3. Color Balance adj layer set to Highlights, select highlights color
4. "Highlights" Layer Style > Blending Options > move This Layer Black (left) slider to right
Add a Layer Style > Blending Options > This Layer to each Color Balance adj layer to be more precise in specifying which pixels are tinted.

• Infrared Film

1. Add a Channel Mixer adj layer set to: Monochrome, -30R, +200G, -70B, +4Constant
2. Channels palette > Green channel > Filter > Blur > Gaussian Filter > ~5 pixels
3. Edit > Fade (to about 25%) in Screen blend mode
4. Channels palette > Green channel > Filter > Noise > Add Noise > Gaussian, ~5%

• Solarization

1. Add Hue/Sat adj layer: saturation = -100
2. Add a Curves adj layer: 45° line from black to mid-point, -45° line back to zero from mid-point to white
3. Add a Curves adj layer to brighten image

Printing

• RIP (Raster Image Processor) Software

For highest quality, RIP software is used rather than the normal print driver to provide a high quality black & white print from a desktop printer.

Examples: ImagePrint, ColorBurst, Quad Tone (\$50 at www.harrington.com/QuadTonePC.html)

• Printers

Many printers add a slight color cast to a black and white image since they use the color inks to produce the black color and the color inks are seldom pure enough to produce a true black.

Newer printers (e.g., the Epson 4800) claim to print very neutral blacks without RIP software.

• Reading Material

There several articles about printing in black and white at <http://www.cjcom.net/digiprnarts.htm>. Especially see the article about printing in Black Only mode for printers such as the Epson 2200 (item 3b).

TYPE TOOL

To add type to an image.

Type Preferences

- **Edit > Preferences > CS: General, CS2: Type > set Use Smart Quotes**

Type Entry

- **Type tool > Horizontal Type:** add text horizontally
 - **rt-clk on Type > Convert to Paragraph Type:** change Point Text to Paragraph Text
- **Paragraph Type:** clk & drag a box, type within box
 - **rt-clk on Type > Convert to Point Type:** change Paragraph type to Point Text
- **Type tool > Vertical Type:** add type vertically
 - **Option Bar > Swap:** change vertical type to horizontal
- **Type tool > Horizontal, Vertical Type Mask:** add text as an editable selection
- **Special Characters (Windows):** Start > All Programs > System Tools > Character Map
 - **alt+xxxx (PC):** type a special character; xxxx is font dependent - for the Arial and Times font,

0133: ...	0145: ´	0149: •	0162: ¢	0174: ®	0189: ½
0134: †	0146: ¸	0150: –	0163: £	0176: °	0190: ¾
0135: ‡	0147: “	0151: —	0167: §	0177: ±	0215: ×
0136: ^	0148: ”	0153: ™	0169: ©	0188: ¼	0247: ÷

- **Fonts:** search for fonts on the web or look at www.dafont.com/, www.highfonts.com, www.fontfreak.com
- **Pixel-Fonts:** if you create web pages and need a tiny readable font, pixel-fonts are especially created for this; look at www.minifonts.com/
- **Spell Check:** rt-click on type > Spell Check

Option Bar

- **Tool Preset:** display the tool presets
- **Swap** the Horizontal / Vertical Text Orientation
- **Font Type:** select the font family
- **Font Style, Font Size:** set font parameters
- **Anti-Alias Method**
 - **None:** no anti-aliasing applied; best for very small characters or to limit the number of colors

- **Sharp**=minimal anti-aliasing for very sharp characters
...**Crisp**... **Strong**...**Smooth**=maximum anti-aliasing for very smooth characters
- **Alignment**: left-justified, center-justified, or right-justified text
- **Color**: set text fill color
- **Warp**: select text warping
 - **Bend**: the amount of text warp, -100%=180° warp down...0%=no warp...+100%=180° warp up
 - **{Horizontal | Vertical} Distortion**: control the amount of warp along the {horizontal | vertical} axis

• **Character palette**

To define the type's character parameters.

Character Palette

Font Family	Font Style
Ⓜ Font Size	Ⓐ Leading
AV Font Kerning	AV Character Tracking
T Vertical Scale	T Horizontal Scale
A ^a Baseline Shift	Color Text Color
Font Attributes	
Language	Anti-alias Style

• **Fields**

- **Font Family**: select a font
- **Font Size**: font height, in points
- **Font Kerning: character spacing, in em value/1000**
- **Vertical Scale**: scale the character's vertical size without changing its selected Font Size
- **Baseline Shift**: vertical baseline shift (e.g., superscripts)
- **Font Style**: select regular, Italics, or Bold
- **Leading**: horizontal baseline spacing
- **Character Tracking**: uniform character spacing, in em value/1000
- **Horizontal Scale**: scale the character's horizontal size without changing its selected Font Size
- **Color**: open the color picker
- **Font Attributes**: | Faux Bold, Faux Italics | All Caps, Small Caps, Superscript, Subscript | Underline, Strike-thru |
- **Language**: spell-check language – English, French, etc.
- **Anti-alias Style**: select the amount of anti-aliasing
 - **None**: no anti-aliasing; produces jagged font edges
 - **Sharp**: minimal anti-aliasing; best for small fonts and especially when used at low resolution such as on a web page
 - **Crisp**: average anti-aliasing; also good for small fonts
 - **Strong**: moderate anti-aliasing; best for general graphics work
 - **Smooth**: extensive anti-aliasing

• **Menu**

- **Faux Bold**: simulate a bold format for a non-bold font
- **Faux Italic**: simulate an italic format for a non-italic font
- **Rotate Character (vertical type only)**: rotate a character with vertical type so that it appears upright
- **All Caps...Strikethru**: set character format
- **Ligatures**: allow Ligatures (i.e., a single character replacement for a character pair) if the Open Type font provides them
- **Old Style**: allow Old Style numerals (i.e., a shorter and possibly descending numeral character) if the Open Type font provides them
- **Fractional Widths**: set the spacing between characters to a fraction of a whole pixel to improve readability
- **No Break**: prevent characters from hyphenating at the end of a line, based upon parameters set in the Paragraph palette
- **Reset Character**: reset Character format to the default, 12 point Courier

• **Paragraph palette**

To define the type's paragraph parameters.

Paragraph Palette

Align Text	Justify Text	Justify All
→ Indent Left Margin	→ Indent Right Margin	
→ Indent First Line		
→ Space Above Paragraph	← Space Below Paragraph	
✓ Hyphenate		

• **Fields**

- **Align Text**: align the text to the left, center or right without justification
- **Justify Text (for Paragraph Text only)**: justify the paragraph leaving the last line aligned to the left, center, or right
- **Justify All**: justify the paragraph including the last line
- **Indent...**: specify the text's left and right edge indentation
- **Space...**: specify the vertical space above and below a paragraph (i.e., text separated by a Carriage Return)
- **Hyphenate**: allow words to be hyphenated

• **Menu**

- **Roman Hanging Punctuation**: allow punctuation to appear just outside the paragraph's left and right margins
- **Justification**: setup the justification parameters
- **Glyph Spacing**: control the character width, 50%=half normal width...100%=normal width...200%=double normal width
- **Auto Leading**: set the default leading (i.e., space between lines of text, baseline-to-baseline)
- **Hyphenation**: setup hyphenation parameters
- **Adobe Single-line Composer**: justify each line

independent of any other line

- **Adobe Every-line Composer:** justify each line relative to the justification of other lines to produce more overall even spacing and fewer hyphens
- **Reset Paragraph:** reset paragraph format to left-justify, zero spacing and zero margin

• **Aligning text**

1. CS - ctrl+clk on one layer of type to select
2. Layers palette: select the other of type
3. Move tool > Option Bar > clk on desired alignment
1. CS2 - Layers palette: select both layers with type
2. Move tool > Option Bar > clk on desired alignment

• **Layer Style**

- **Blending Options:** make areas of a layer transparent based upon how bright and/or dark these areas are
Use to make areas of a layer transparent, based upon how bright or how dark the image is.
- **Drop Shadows:** add a shadow behind the layer objects
Use to “raise” object above surface of lower layer.
 - **Structure**
 - **Blend Mode, Opacity:** effect of the shadow upon the lower layer
 - **Angle:** shadow appears beyond object opposite the Angle setting
Alternative: drag the drop shadow on the image to set angle.
 - **Use Global Light:** Layer > Layer Style > Global Angle value overrides this setting of Angle
 - **Distance:** the shadow offset
Alternative: drag the drop shadow on the image to set distance.
 - **Spread:** increase the shadow’s density, 0%=standard blurred drop shadow...100%=enlarge shadow to the edge of the blur and sharpen its edge (as Layer Mask is at the edge of the blur)
 - **Size:** the shadow’s size and density, small and dense...large and diffuse
Size must be > 0 for most of the Contours to show up.
 - **Quality**
 - **Clk on the Contour Icon:** edit the Contour
 - **Contour Pulldown (about a object):** set the opacity variation in the shadow of the object
Hint: think of the Contour icon affecting opacity starting at the shadow’s left edge and extending towards the image center.
Be sure Size > 0 for other than Linear Contours.
- **Inner Shadows:** add a shadow inside the edge of layer objects
Use to “recess” object below surface of lower layer.
- **Outer Glow:** add a glow emanating outward in all directions from the outside edge of the layer objects
Use to surround text or an object with a glow.

- **Inner Glow:** add a glow emanating inward in all directions from the outside edge of the layer objects
Use to give text a smooth black edge.
- **Bevel and Emboss:** add 3-dimensional highlights and shadows to objects
Use to create 3D buttons and to create frames for an image.
- **Bevel and Emboss > Contour:** specify a contour to vary the shape of the bevel
If Contour is reset, Range = 100% is used.
- **Bevel and Emboss > Texture:** specify a monochrome pattern to texture the bevel
If Texture is reset, no texture is used.
- **Satin:** to apply shading to the interior of a layer that reacts to the shape of the layer, typically creating a satiny finish or to simulate internal reflections
Hint: normally set Invert to create the Satin (darkening) effect.
- **Color Overlay:** overlay the layer with a fill color
This is useful to colorize a monochrome image.
- **Gradient Overlay:** overlay the layer with a gradient
- **Pattern Overlay:** overlay the layer with a pattern
- **Stroke:** add a border to a selection or an image that is composed of a color, a gradient, or a pattern
- **Layer > Rasterize > Type:** convert text to a bitmap to allow modification with filters
Hint: duplicate and hide the type layer prior to rasterization to allow future edit of the text.

Text Effects

- **To Type on a Path or a Shape**
 1. Pen or Freeform Pen tool, Option Bar: Create Path, draw Path
 2. Type or Type Mask tool or any of the Shape tools: click on the Path and type
 - Type appears in the directions in which the Path was created
 - Horizontal Type appears perpendicular to the Path; Vertical Type appears along the path
 - To move the type along the Path, Path Selection tool: clk and drag the type along the path; the type will not move beyond the initial Path point
 - To flip the type to the other side of the Path, Path Selection tool: clk and drag the type to the other side of the Path
 - To move a Path with Type, Move or Path Selection tool: clk and drag the path
 - To alter the Path shape, Direct Selection tool: clk on an anchor point and move handles to alter shape
- **To Type within a Shape**
 1. Shape tool: create a shape
 2. Text tool: clk within Shape and Type
 3. Paragraph palette: set center justification

- **To visually select font size (PS CS)**
 1. Create some text
 2. Move tool; Edit > Free Transform to show the bounding box
 3. shf+drag a corner point to the desired size with the orig aspect ratio
- **To change the color of several letters,**
 1. Highlight letters that are to change color
 2. clk on Color box of Toolbar and select color; view the text
- **To change the color, size or style of several Type Layers,**
 1. Link the type layers
 2. Character palette: shf+select text attribute
- **To add text with the color of the background image,**
 1. Add white text to a new layer
 2. Text Layer > Layer Style > Bevel and Emboss > Inner Bevel
 3. Text Layer > Soft Light blend mode; also try Overlay
- **To align text to the center of a page**
 1. Select type layer
 2. Select All (ctrl+A)
 3. Layer > Align Layers to Selection > Vertical Centers
 4. Layer > Align Layers to Selection > Horizontal Centers

or, use the Align features of the Move tool.
- **To align text to any point on the page**
 1. Create text
 2. View > set Snap to Guides (ctrl+shf+;)
 3. Move tool: move text to Guide intersection; text snaps relative to both edge and middle of text
- **To create unique text**
 1. Enter text
 2. Layer > Type > Convert to Shape
 3. Add Anchor Point tool: add an Anchor Point and drag as desired