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## Color to Grayscale

There are many ways to color to grayscale. Most work reasonably well, some don't. Here is an example:



GIMP desaturated average



GIMP desaturated lightness



GIMP desaturated luminosity



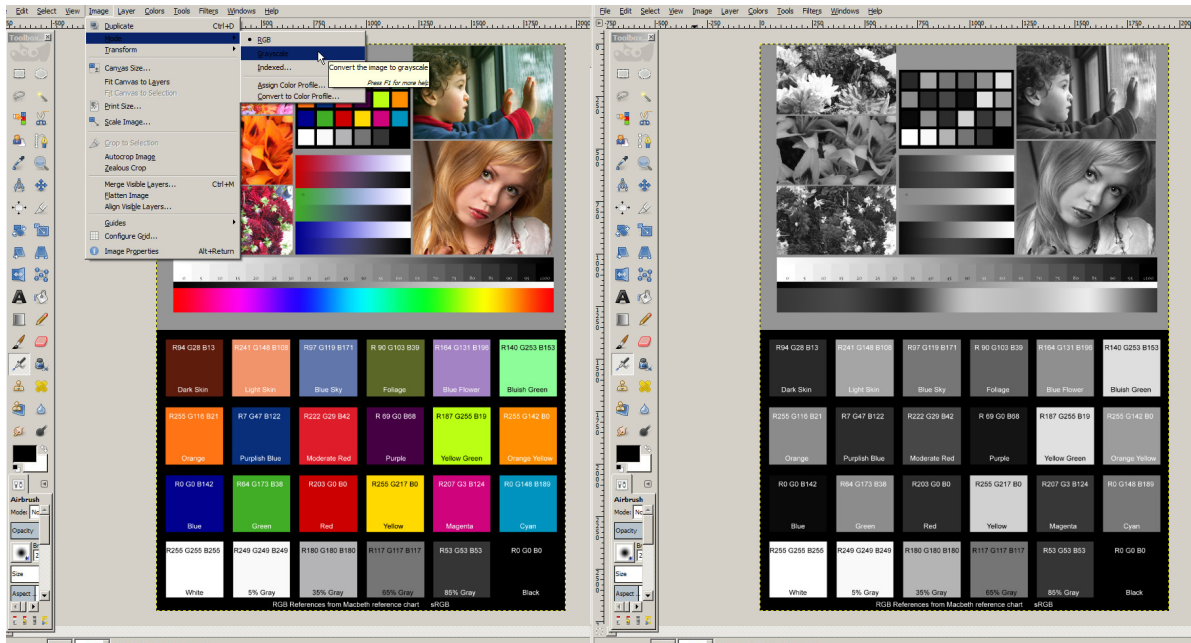
GIMP grayscale

Obviously, if you were the CEO of GB Inc, neither of the top conversions would be acceptable. It only takes a minute to review an automatic conversion. Below are most of the ways to to do a push-the button conversion, and one, channel mixer which gives the greatest initial control by enabling you to mix each channel.

There are a lot of choices, but the most sensible approach would be to make a few conversions, pick the one that is the closest to what you want, set the black and white points, then use curves and selections/masks to improve the image.

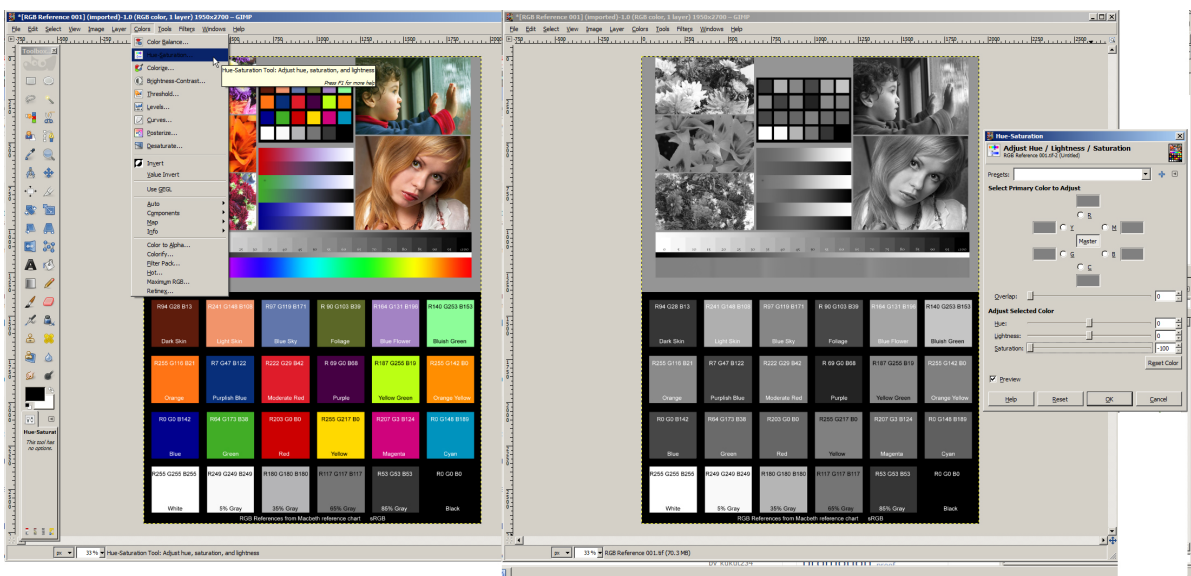
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The first choice is usually the Grayscale button:



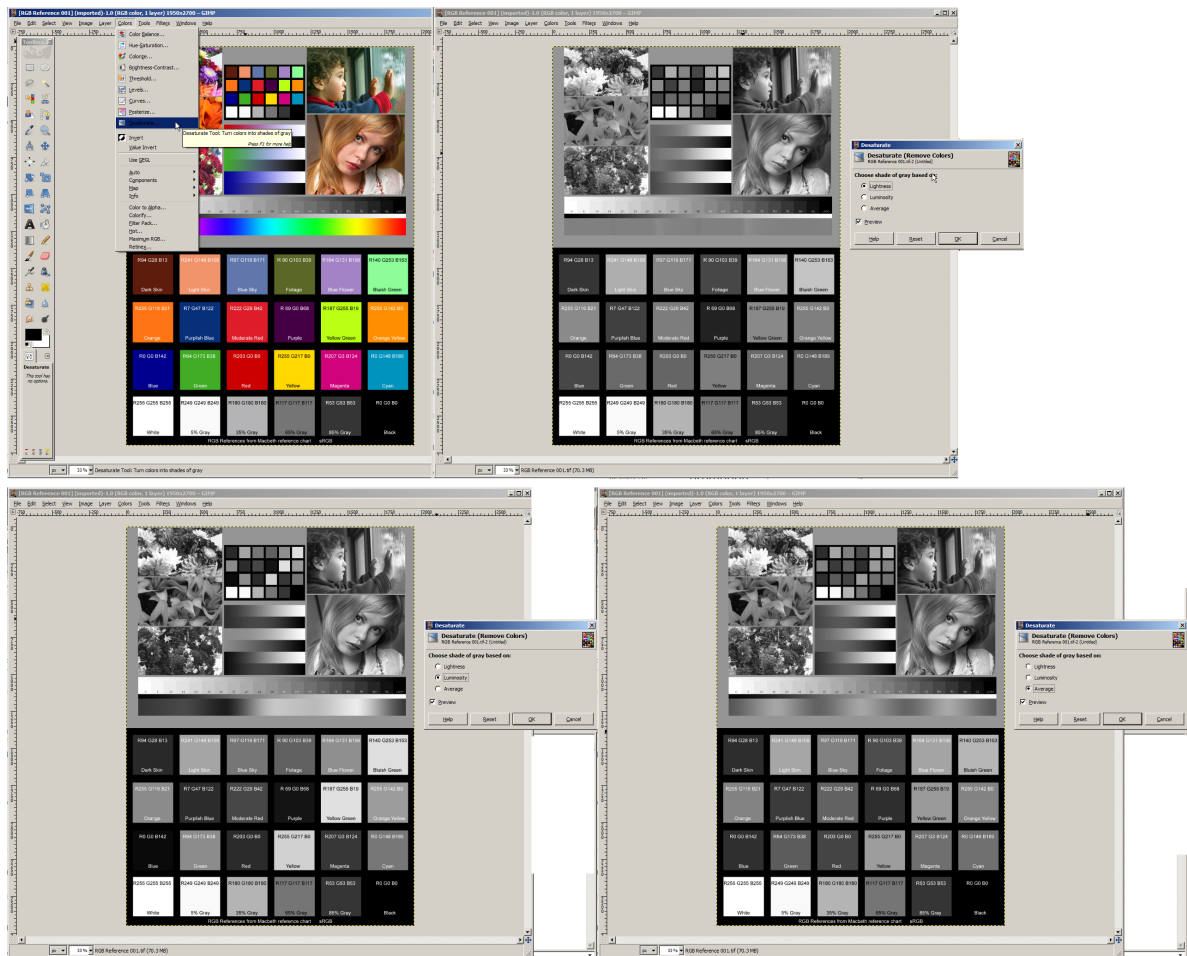
In most programs this is found *Image > Mode > Grayscale*. Changing the mode of an image, changes all layers to that mode (RGB, CMYK, Grayscale, Indexed, etc.). Most graphics programs—here I’m using GIMP because it is full-featured and free—do not have adjustment layers, which permit infinite adjustments, so that you could keep the image in color, but also convert a layer to grayscale. This is one of Photoshop’s greatest features.\* Outside of Photoshop, most adjustments are destructive: that is, they permanently change the the image, at least on the active layer.

Therefore, once you have made your grayscale conversion, you must either live with it or start over. As a basic strategy, make the best grayscale conversion possible, then tweak it, which can be done non-destructively.



This is probably the second most common conversion, using Hue & Saturation. It is found here *Colors > Hue & Saturation*. Move the Saturation slider to the left, desaturating the image. Go all the way.

\* Adjustment include: brightness/contrast, levels, curves, exposure, hue & saturation, color balance, black and white, photo filters, channel mixer, color lookup, invert, posterize, threshold, gradient map, selective color, etc.



*Colors > Desaturate* offers three choices: Lightness, Luminosity, and Average.

Not as commonly used, but perhaps the most effective conversion is the Channel Mixer, *Colors > Components > Channel Mixer*. Ultimately, the color to grayscale conversions are some mixture of the Red, Green, and Blue channels. Each channel is a grayscale image, which is interpreted as color for video or printing.

There are some “standard” settings:

	Red	Green	Blue
General	40	40	20
General	24	68	8
B & W Infrared	70	200	30
B & W with blue filter	0	0	100
B & W with green filter	0	100	0
B & W with red filter	100	0	0
B & W with orange filter	50	50	0
B & W with yellow filter	34	66	0

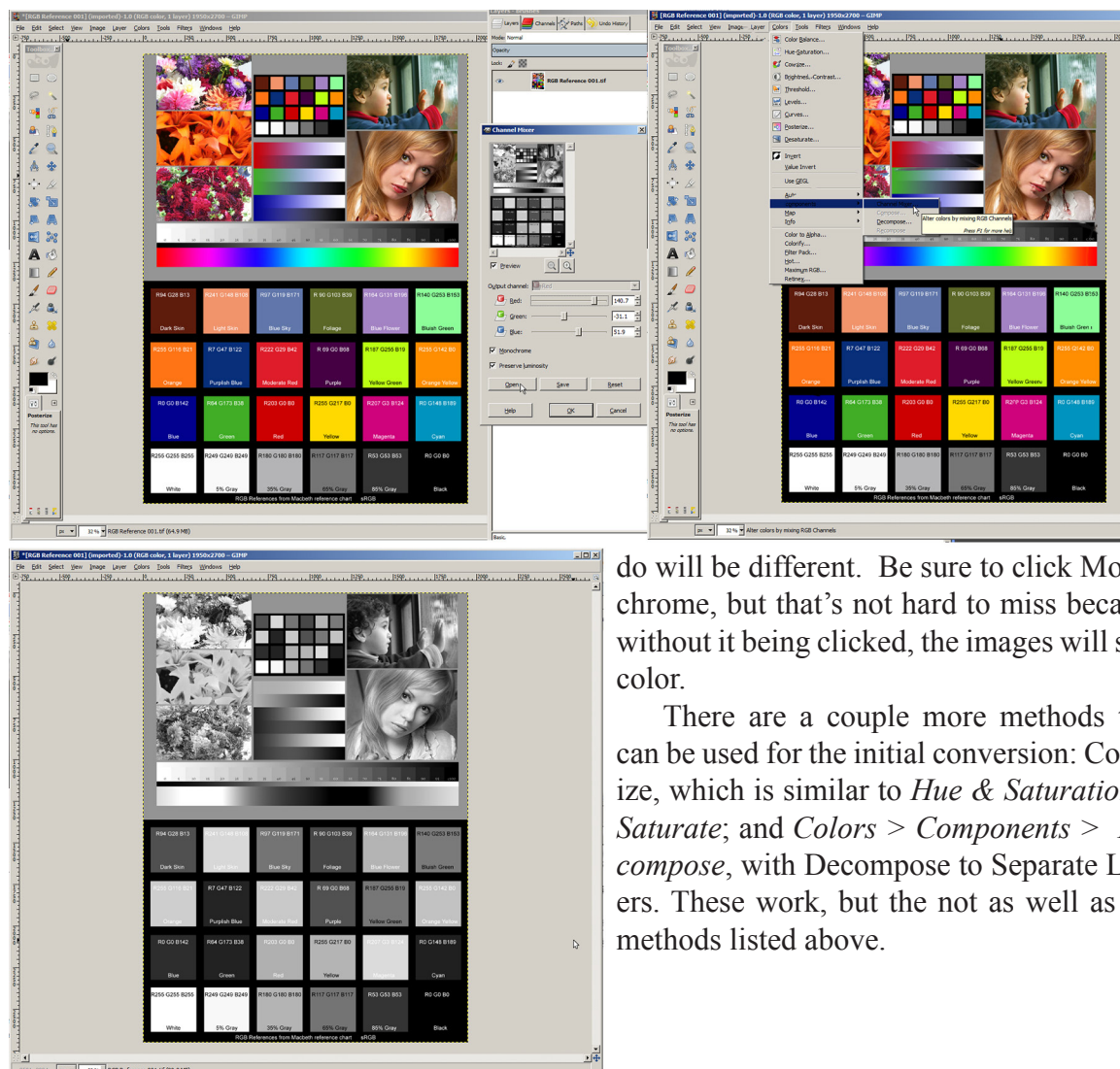
#### B & W Film Equivalents

AFFA 200X	18	41	41
Agfapan 25	25	39	36
Agfapan 100	21	40	39



Agfapan 400	20	41	39
Ilford Delta 100	21	42	37
Ilford Delta 400	22	42	36
Ilford Delta 3200	31	36	33
Ilford FP4	28	41	31
Ilford HP5	23	37	40
Ilford Pan F	33	36	31
Ilford SFX	36	31	33
Ilford XP2 Super	21	42	37
Kodak T-Max 100	24	37	39
Kodak T-Max 400	27	36	37
Kodak Tri-X 400	25	35	40
Normal Contrast	43	33	30
High Contrast	40	34	60

Note that most of the setting add up to 100. In general, less than 100 the shadow details and even the image risks going too dark, over 100 the highlight details risk burning out and even the image could go too light. But this is a general rule. Every image is different, and what you



do will be different. Be sure to click Monochrome, but that's not hard to miss because without it being clicked, the images will stay color.

There are a couple more methods that can be used for the initial conversion: *Colorize*, which is similar to *Hue & Saturation* > *Saturate*; and *Colors* > *Components* > *Decompose*, with Decompose to Separate Layers. These work, but the not as well as the methods listed above.

See “Images in Books,” [www.12on14.us/free/image\\_in\\_book\\_030417.pdf](http://www.12on14.us/free/image_in_book_030417.pdf):  
Using Levels or Curves, set the White and Black points. If you don’t know where they are,  
you can use Threshold and the drag in Guides to make the points.  
Using Selections with feathering, you can adjust small areas, using Levels, or better Curves.

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[walton@12on14.us](mailto:walton@12on14.us) ♦ [www.12on14.us](http://www.12on14.us)

