
COLOR AND GRADIENT MIXERS IN EXCENTRO 1.8

Excentro application has two inspector windows where user can mix colors, tints or gradients that could be set as attributes to paths of guilloche objects. These inspectors are: **Color Mixer** and **Gradient Mixer**. While they closely resemble similar utility windows and palettes of other graphics design applications, there are some differences in their behavior you should be aware of. Let's mention them from the start before going into some details about each Mixer:

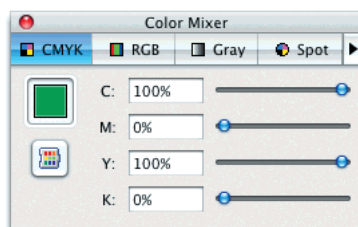
1. The name for color swatch or gradient swatch in *Excentro* can be typed directly in **Color Mixer** and **Gradient Mixer** inspectors. There is no need to mix a color first, then drag it to document's **Swatches List**, then set swatch name to something more or less meaningful. When you apply the new color (or gradient) that has a swatch name as stroke or fill attribute for an object, a new swatch will be automatically added to document's **Swatches List**.
2. If **Sync Changes With Document Swatch** checkbox is switched on in inspectors, changes to color (and gradient) values (or names) will be automatically applied to the swatch of the same name in active document and to all objects that this swatch was assigned to as stroke or fill attribute. So, please, be careful: if you need to create a new swatch with a different name, uncheck this checkbox first, otherwise existing swatch (if it already exists in the document) will be renamed to the new name value.
3. In *Excentro 1.8* we changed the way to create and manage spot colors. Now all that is required is to mix a visual approximation with CMYK or RGB values (in **CMYK** or **RGB** panels of **Color Mixer**), then switch to **Spot** panel of the inspector, type new spot color name and set tint value as needed.
4. There are two types of gradients in *Excentro 1.8*: **Object** gradient and **Page** gradient. The first one (**Object** gradient) is not much different from default gradient behavior in standard graphic arts applications (like *Adobe Illustrator*): the gradient sizes and position are calculated from the bounds of the object's path it was applied to.

The second one (**Page** gradient) is a bit specific to *Excentro*: its sizes and position are defined by the user as values in page coordinates and they do not depend in any way on the object it gets applied to. This somewhat strange behavior was devised because **Page** gradients in *Excentro* serve as a kind of onscreen rainbow printing preview in the first place. So, we just needed a quick way to set identical gradient attributes with precisely controlled page positions to several hundreds of paths on different document layers.
5. For the similar reason **Page** gradient's type, size and positions are saved in *Excentro* swatch palettes and document's **Swatches List**. (This is different from what *Adobe Illustrator* normally does).
6. Applying gradient as a stroke attribute will automatically create 'filled paths'. If you prefer to get 'stroked paths' in exported PDF and AI files, you should switch on **Export Gradients as Spot Colors** checkbox in **Preferences** dialog of *Excentro*. This option will be of interest mostly to those who use gradients as rainbow printing preview and want to get normal stroked paths in export.

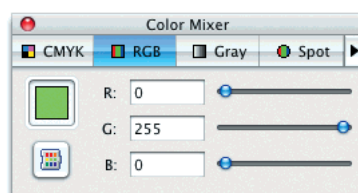
COLOR MIXER

Color Mixer in *Excentro* has usual fields and controls to define colors in CMYK, RGB and Grayscale colorspaces:

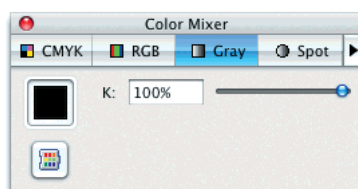
■ **CMYK** panel of **Color Mixer** allows you to set C (cyan), M (magenta), Y (yellow), K (black) values in percents 0–100% using numeric fields or slider controls. White color has values 0-0-0-0, black color (or maximum of all colors) is 100-100-100-100.



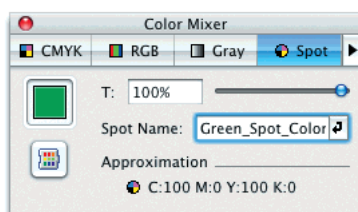
■ **RGB** panel defines color in RGB colorspace with R (red), G (green) and B (blue) numeric fields and sliders. The range for each R, G, B component is 0–255. White color is 255-255-255, black (darkest) color is 0-0-0.



■ **Gray** panel is for single component of Grayscale colorspace. The range for K value is 0–100%. **NOTE:** We suggest you not to use Grayscale colorspace for colors that should be printed with only black process ink. Use instead K channel of CMYK colorspace (in **CMYK** panel of **Color Mixer**) to define such colors. Grayscale colorspace may produce unexpected results when separated to process colors by color management systems that treat Grayscale as a calibrated colorspace.

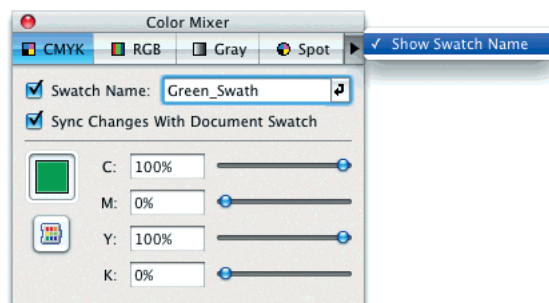


■ **Spot** panel allows you to convert CMYK, RGB or Grayscale color to spot color. When you switch to this panel from other panels of **Color Mixer**, current color values are set as visual approximation for the new spot color. Just type appropriate spot color name in **Spot Name** field and set tint shade value if needed.



SWATCH NAMES

You can set or change swatch name for a new color directly in **Color Mixer**. To do so, choose **Show Swatch Name** command **Color Mixer**'s window side menu to make swatch name fields visible and switch on checkbox beside the **Swatch Name** field. After that you can type names for new swatches or edit names of existing swatches in document's **Swatches List**.



When you assign a color with new swatch name to one of the objects in *Excentro* document, new swatch will be automatically added to document's **Swatches List**.

If you want to edit name or values of the existing swatch in **Color Mixer**, switch on both **Show Swatch Name** and **Sync Changes With Document Swatch** checkboxes. When **Sync Changes With Document Swatch** checkbox is on all changes in color mixer fields will be applied to the document swatch of the same name and to all objects this swatch color was assigned to. Do not forget to switch off this checkbox if you want to create new swatch with a different name, otherwise you will continue to modify one of the existing swatches in active document.

GRADIENT MIXER

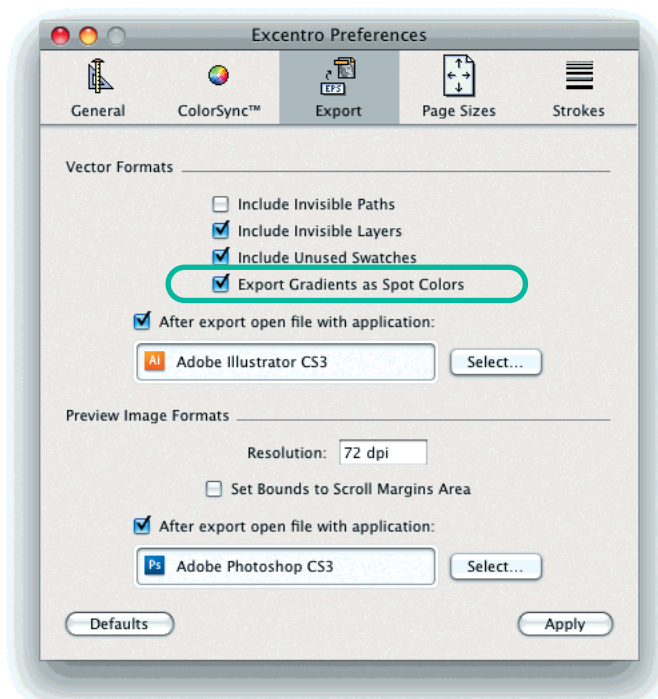
Gradient Mixer is the counterpart to **Color Mixer** that deals with gradients instead of colors. **Gradient Mixer** and gradients were added to *Excentro* with version 1.8, primarily as way to simulate effects of rainbow printing on computer screen or in raster preview files exported in JPEG or TIFF formats.

However, nothing stops users from working with *Excentro* gradients in the similar manner they do it in other applications. You can set gradients as fill or stroke colors for guilloche paths and export the results in vector-based formats (PDF or AI), the gradient attributes will be preserved properly in this formats. The only limitation, or rather, consideration, to keep in mind: it is extremely difficult, if not impossible, to print multi-color gradient line 70 microns wide on traditional printing press equipment, moreover: some government regulations for security papers production forbid printing guilloche artwork with halftone screens, which is unavoidable if gradients are used. So, this feature is mostly, as was already mentioned, for rainbow preview purpose, for proofing rainbow effects on digital equipment and for all those who print diploma and certificates on ink jet printers without highest security goals in mind.

Gradients are applied to objects in *Excentro* in exactly the same way as regular colors do: just drag a patch from color well of **Gradient Mixer** to the object you want to set it to.

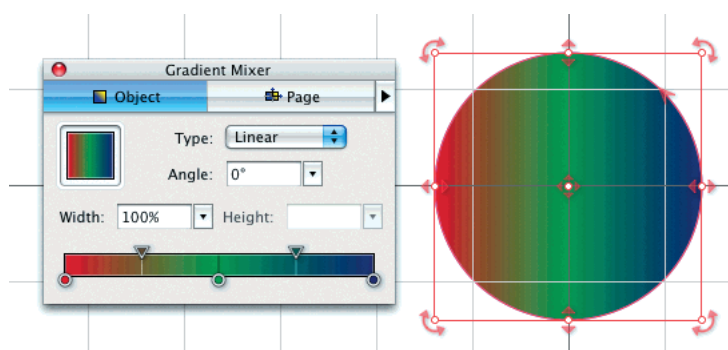
When gradient is set as object's stroke attribute, it will produce a 'filled' paths (as opposite to 'stroked' paths with color stroke attributes). If your design is a security paper that will be printed on a printing press with rainbow inking unit, you can disable generation of 'filled' paths during export to PDF or AI format and output these paths as normal

paths with color set to spot color with the same name as that of the gradient swatch. One of the reasons to do so is to increase the precision of paths rendition and to improve the speed and performance of RIP processing. To force *Excentro* to replace gradients with spot colors and export stroked paths, switch on **Export Gradients as Spot Colors** checkbox in **Preferences** dialog. (Stroked paths will not be produced if the path already has variable width set by **Stroke Width Modulation** or **Bas-relief** effects.)



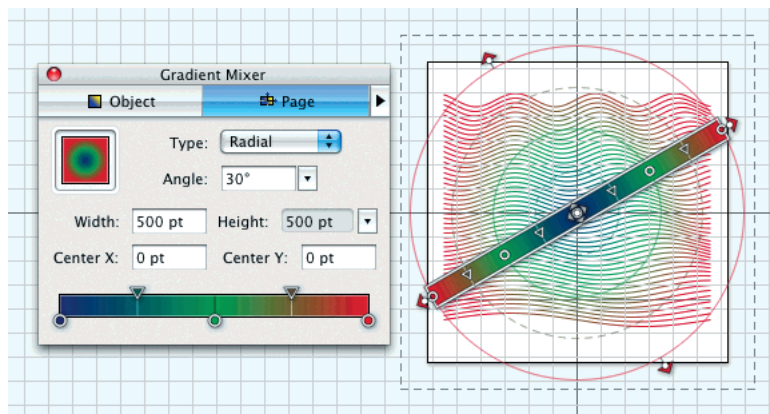
Gradient Mixer can mix gradients of two types: **Object** gradient and **Page** gradient.

■ **Object** panel of **Gradient Mixer** could be used to create 'object' gradients. Gradients of this type behave similar to gradient fills in other applications, where gradient's sizes and positions are calculated from the bounds of object's paths. That means that gradient appearance does not depend on objects' position on the page, but it changes when object's shape and dimensions change.

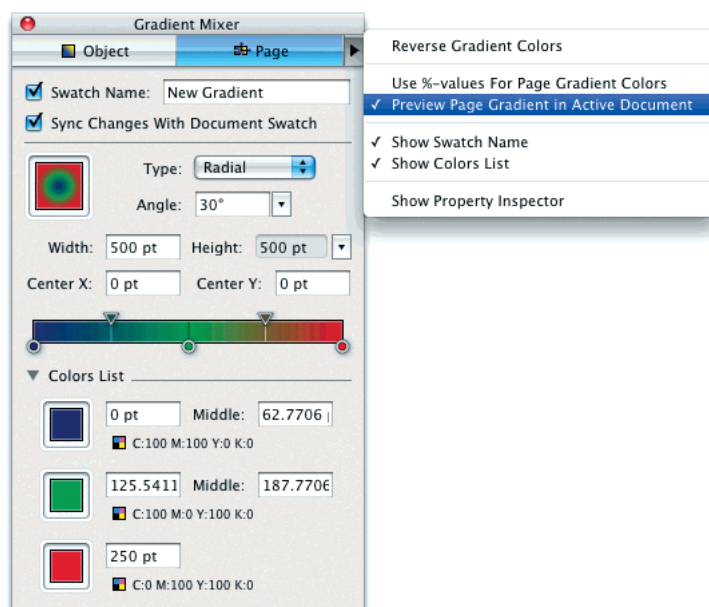


Unlike the gradients of *Adobe Illustrator*, **Object** gradients in *Excentro* do not rotate or skew together with the object's paths transforms. Angle of the gradient is defined by the **Angle** field in **Gradient Mixer**, it's relative size is controlled by **Width** and **Height** (**Height** is for radial gradients only) fields. The center of **Object** gradient is always the center of the object's paths bounds.

■ **Page** panel of **Gradient Mixer** serves to create ‘page’ gradients. Gradients of this type are different from **Object** gradients (and gradients in other applications) in the way, that they do not depend on the shape and size of the object’s paths they are applied to. The angle, sizes and position for **Page** gradients are defined by **Angle**, **Width**, **Height** (for radial gradients only), **Center X** and **Center Y** values in **Gradient Mixer** and are applied identically to all the objects in document this gradient was assigned to.



To make work with **Page** gradients easier you can turn on **Page** gradients preview in active document by choosing a command with the similar name from **Gradient Mixer**’s window side menu.



Another useful option would be to **Show Colors List** with all the colors gradient consists of. This list shows **Ramp** (color position in gradient) and **Middle** (position where two adjacent colors has equal fills) values for all colors. It allow to control gradient colors with more precision compared to dragging colors the mouse in gradient bar.

To add more colors to gradient (or to change one of existing colors) you can drag and drop a color patch from **Color Mixer** (or **Swatch Lists**) onto gradient bar. To duplicate existing color, you can click and drag its color circle while holding down *Option* key. To remove one of the colors, just drag it outside the gradient bar.

Swatch Name fields in **Gradient Mixer** have absolutely the same effect as identical fields in **Color Mixer**.