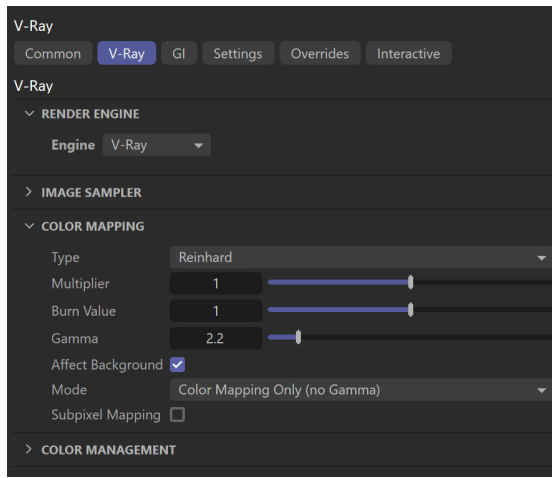# Color Mapping

This page provides information about the Color Mapping Render Settings in V-Ray for Cinema 4D.

Overview

Color mapping (also called tone mapping) can be used to apply color transformations on the final image colors. Sometimes an image can contain a higher range of colors that can be displayed on a computer screen. Color mapping has the task of re-mapping the image values to be suitable for display purposes.

UI Path: ||Render Settings|| > **V-Ray** > **V-Ray** tab > **Color Mapping** rollout

Color Mapping Parameters

Type – The type of transformation used. These are the possible types:

> **Linear multiply** – A simple multiplication of the final image colors based on their brightness without applying any changes.
> **Exponential** – Saturates colors based on their brightness. This can be useful to prevent burn-outs in very bright areas (for example around light sources). This mode clamps colors so no value exceeds 255 (or 1 in floating point value).
> **HSV exponential** – Similar to **Exponential** mode, but preserves hue and saturation instead of washing out the color towards white.
> **Intensity exponential** – Similar to **Exponential** mode, but preserves the ratio of the RGB color components; only the intensity of the colors are affected.
> **Gamma correction** – Applies a gamma curve to the colors.
> **Intensity gamma** – Applies a gamma curve to the intensity of the colors, instead of each channel (r/g/b) independently.
> **Reinhard** – Blends between exponential-style color mapping and linear mapping. Use the **Burn Value** parameter to set the blend value.

Multiplier – The overall multiplier when the color mapping **Type** is set to **Reinhard**.

Burn Value – Adjusts the blend of mapping between linear and exponential style for the **Reinhard** transformation type. If Burn Value is *1.0*, the result is linear color mapping; if Burn Value is *0.0*, the result is exponential-style mapping.

Gamma – Controls the gamma correction for the output image regardless of the color mapping mode. Note that the value here is the inverse of the one used for the **Gamma correction** color mapping type. For example, to correct the image for a 2.2-gamma display, you can simply set the **Gamma** parameter to *2.2*.

Affect background – If disabled, color mapping does not affect colors belonging to the background. This option is not supported when using the Progressive Image Sampler.

Mode – Determines whether color mapping and/or gamma correction are burned into the final image. The possible values are:

Color mapping only, no gamma – Color mapping is burned into the final image, but not the gamma correction. This is the default option. V-Ray still proceeds to sample the image as though both color mapping and gamma are applied, but only applies the color correction (Linear, Reinhard, etc.) to the final result.

Color mapping and gamma – Both color mapping and gamma correction are burned into the final image.

Don't affect colors, only adaptation – Neither color mapping nor gamma are burned into the final image. However, V-Ray proceeds with all its calculations as though color mapping and gamma are applied (e.g. the noise level is corrected accordingly). This can be useful, for example, when you want to apply some color correction to the image later on, but wish to keep the rendering itself in linear space for compositing purposes.

Subpixel Mapping – Controls whether color mapping is applied to the final image pixels, or to the individual sub-pixel samples.