

## Film Effects with da Vinci's Colorist Toolbox

Talk of the da Vinci Colorist Toolbox inevitably leads to a discussion on making video or electronically-originated material look like film.

It is an emotive subject that usually provokes a debate on the reasons and merits of artificially creating film-like images. Once the decision to emulate the effects of film is made, someone has to analyze what the characteristics of film are, and how they can be recreated. My own list includes:

- Gamma curves
- Depth of field
- Shadow and highlight control
- Grain structure
- \*Frame rate (3:2 pull down)
- \*Artifacts (dirt, scratches, weave, hair in the gate etc)

I would add that unless the intent is to give film an old or inferior look, the last two characteristics (marked with an asterisk) are usually undesirable. Ironically, we usually work to minimize the other characteristics when dealing with film, but add them in when trying to mimic its unique look.

### Gamma

Film gamma is often described as an S-curve and results from the sensitivity of silver halides to light. This can be recreated using traditional lift, gamma, and gain controls—but *Custom Curves* offer a more precise approach. There are ways to calculate an accurate Custom Curve based on a particular film stock, but it is more usual to build a curve that suits the job. I keep several examples in my PowerGrade library. A little tip: custom curves can be applied as either positive or negative effects, depending on whether the control is turned clockwise or counter clockwise. I have found that building an inverse S curve and applying it as a negative effect gives a better result.



*Source image from HD Camera*



*Film Gamma Applied With Custom Curves*

## Depth of Field

Depth of field can be reduced using a Circle Power Window (CPW) and gaussian blur on the Defocus board. It could be done equally well in the Toolbox, but that would limit the use of grain tools later in the grade. I placed the CPW over the image in the mirror and used the CPW Soft control to add progressive defocus towards the edge of the image. I also sharpened the girl's face to enhance the difference.



*Defocus Power Window for Depth of Field*

## Shadow and Highlight Control

A defocused luminance isolation with a Toolbox kilovector is excellent for replacing the hard highlight clipping of digital cameras with a softer white glow or fill. A similar shadow isolation can also be used to increase the density of shadows and, if necessary, to desaturate them.



*Shadow Depth and Highlight Fill from Toolbox Kilovectors*

## Grain Structure

Software tools can impose grain effects but they typically have limited control, and are very slow to render. If only there was a way to store real film grain and sprinkle it over other images later. Just add grain to taste! Well now there is! Grab some images of grain in the da Vinci 2K Gallery, export them as jpegs and load them in the Colorist Toolbox texture library.

Ideally these would be unexposed frames, captured at the resolution of the final transfer, but they could be smaller areas of a frame. The Toolbox automatically tiles textures that are smaller than the current frame size. The purpose of loading a series of jpegs is that the 2K cycles them at the current frame rate. This works particularly well on 24p images, since the grain changes at a film rate rather than a video rate. The advantage to this method is that a colorist can accurately cut and paste grain to match any film stock, exposure, and processing. It is ideal for CG elements that have to cut with film scenes.

The downside is that it takes a fair bit of setting up to do well, so it's great for big budget digital intermediate jobs, but we need an alternative for clients in a hurry.

That alternative exists in the da Vinci Colorist Toolbox random noise generator. There are settings for "grain" size, irregularity, and intensity. To apply the grain, whether sampled or generated, I like to use a Toolbox kilovector qualified with a soft white clip. This gives the effect of more noticeable grain in the shadows than the highlights. Interestingly the "grain" makes images appear sharper.

In the final image I trimmed back the sharpness I had added and made a slight adjustment with the Toolbox master color controls.



*Final Film Effect with Grain*

Of course, I have to say the best way to get a film look is to shoot on film, but the Colorist Toolbox lets the colorist create imaginary film stocks with a control of grain structures and sensitivities that are closer to alchemy than chemistry.

Happy Coloring!

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