

## General Color Correction/Image Enhancement

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We have written a tutorial about color correction and general image enhancement showing step-by-step how to create a better looking image, including the "shaolin look" in Adobe After Effects. I had this posted on the own-age.com forum and there was a question coming up about overbrightened images so i wrote a fairly long post on why you should not overbrighten your image and the problems that will come up if you do.

i've been reading a question in another forum about this, so i thought i might make small tut about this topic. basically there are two types of color correction and i'll only cover one here. there's "general image enhancement" and "color matching", the latter is color correcting two scenes to match eather other visually. turning day into night, cloudy day into sunshine, etc. but since this is kinda complex ill only do the general image enhancement part. I'll be using after effects 7, but the techniques apply to every other app aswell.

let's get started. i took a simple pic from q3 and loaded it into afx. excuse the huge screenshots, but i thought it'd be better if you see everything :) sorry for the missing anti-alias too, but it wont be that apparent later on.

let's first look at the histogram, which will show us the general brightness of each channel and of the composite. as we see we have a lot of dark but not so much white.. (ofcourse that could change during the sequence but i'm only focussing on this single shot here) - also we see that the image is generally quite dark. so i will brighten it up by a notch. what you generally tend to do with the histogram editing is to use the full bandwidth you have at your disposal, so that the diagram fills the entire area it could theoretically fill up.

the next step was to enhance the contrast. that S-Shape of the curve there simulates the look of film with its smooth rolloff into the highlights and dark areas, but generally its just a higher contrast - you have more control with the curves though. with these two filters we have the luminance of the image roughly sorted out.

i felt the image was a bit too red/yellow-ish so i took out some green and blue (general rule: dont add, only subtract - afx works in 8bit by default and you might clamp the image) then ive gamma'd it up cause i lost some brightness and added some saturation back in (might pull some saturation later one i thought at this point). this is the part where you can get artistical, but try not to overdo it. the plug-in i use is from the DFT Composite suite, but any other will work fine (i think theres on in the color correct menu). i've also change the frame in the sequence here to see some other angles. i might totally change the look later on, but for now i just try to get the colors to look good.

moving on, the next two plugins do something that i like a lot - soft image and noise. softfocus is kinda like a blur not entirely. it simulates a slight out of focus. noise is pretty self explanatory, i like the look so i use it (there will be even more noise incoming later) well, nothing great happening here. i did this here because it'll have a slight influence on the next step.

ok here it comes - the shaolin look. that great glow everybody loves (or not). duplicate the layer (i made a sub comp here, that way it doesnt has to render all the previous stuff twice), boost the saturation really high, brighten it up, blur it, and use one of the additive blending modes (lighten in this case, add was too strong) with a low opacity. bam. thats really all there is about it. enjoy it :)

at this time i had a closer look at what we did so far - i took another look at the histogram and the luminance has changed a lot so i adjusted that again (this time for each channel seperately) as you see the image is now nicely balanced - but imo way oversaturated.

took a lot out here actually, generally i do something around -8 in the end cause i tend to oversature it when doing color stuff, this time i went to -24, which is really pretty much, but it gives a nice look :] i think we're done with colors here for now.

actually not.. still felt there was a slight red tint in it so i used curves to fix that, but i'll skip that to get to a much more interesting point.

...

the crash of after effects that happened now. guess it felt that i was almost done. anyway, i loaded the screenshot i made of the last step and continued

if you've seen the 300 trailer you know what i mean - grain grain grain (if not you really should, will be a great movie, make sure you watch it in hd though). love it. the afx plugin for it is really good, but it takes a long time to render, so this is the last step (it also isnt mandatory :P)

well this concludes my little tutorial here, hope you enjoyed.

concerning a question on the own-age.com forums about an overbrightened look in a movie called Dreaming Illusion, i explained why you should not overbrighten an image.

Samuraigamer wrote: mrks,in case u 've seen a recent q3 movie called dreaming illusion, i would like u to explain how to make that look - i mean: the 'brighter spots' of the maps look like they're glowing or something.is it about color correction or is it a filter?

good that you speak about it, it's actually a pretty good example for bad color correction. dont worry though, i'll tell you how it's done after i explained why you shouldn't do it :]

if you take a look at the title screen:

and now at the Plot Scanline you'll see that most parts of the image are just plain white. (imagine the plot scanline showing the image from left to right and its luminance) the histogram has a huge peak at pure white (255) .. theres no full black either. the result is that the video is overbrightened by a huge amount - it's clamped in the whites. you really want to avoid that because you lose information in your picture. everything above 255 is just lost, you cant get it back when you turn your brightness down later on, the information is gone in 8bit colorspace.

if this doesn't sound scary enough i tell you what can happen next. let's say you burn your video to a dvd to watch it on your nice tv screen. during the process you'll have to interlace your video. no problem, it's all digital, so it doesnt really matter (it wont matter on lcd's anyway) when you play it back your dvd player will most likely convert the video to an analog signal to play it back on your crt, which shows the half-frames. 2 things can happen now: the waveform is really big (look at the plot scanline, it somewhat shows what i mean) so the half-frames may overlap on your screen (really ugly artefacts). the colors will also bleed out, but thats a minor issue compared to the artefacts. the worse thing is that it can affect the audio track (the signal actually jumps on the audio track) and you get ugly sound artefacts (i'm not sure here if this isn't only an issue of DV tapes). this is the reason you normally should not go above 90% luminance for broadcasting - or every other analog format for that matter. might not be that important for playing back on a computer, but you dont know if some people want to play it on their tv. it's ok if you have some peaks above 90% but in the case of dreaming illusion, most part of the image is just 100% white.

what happen's is: you lose information and you risk to make your video not being playable on crt screens.

ok, that being said, you could do it by duplicating the layer, blurring it, maybe play with the colors/luminance a bit, and use the ADD blending mode. turning down the opacity is a good idea here, because you basically double your luminance with that. if you want the glow only to happen on the bright spots then color correct the blurred image to have more contrast.

there's also glow plugins in every compositing app. so you can take the easy way and put a plugin on here (which is what was done in Dreaming Illusion i think) or recreate the effect yourself and have more control over what you - and maybe not run into the troubles i explained above.

on a side not you can get that bright dreamy look without those problems, but i leave that to you :p

this ended up almost being a tutorial on its own. hope it helped though :]