

# Image Restoration, De-Noising, & Upscaling

There are a ton of image restoration tools, especially now that we can clean up old images using tools that are built into Photoshop. Sometimes you still need a finer touch, especially for video clean up. These are some of those tools.

## The Secret Sauce

When you do image restoration, you'll almost certainly end up with something that looks too smooth and a little too AI-looking. Even though you've just removed noise, you now should add some noise and texturing back in. After Effects has some great built-in grain and noise tools, but Red Giant's suite of color tools is what you really want to use. No matter how you execute your solution, the end result will look better and is more sellable when you add a little realistic grime back in. The jam is to over-do the clean up and then dial it back with some artistic license. Counter-intuitive.

## Video Stabilization Trick

I'm giving away a good one here. If your footage is pretty gnarly and shaky and warp stabilization vanilla style doesn't work great in Premiere or After Effects, you can bring that footage into a tool like Topaz and slow the footage way down with some AI tools (sometimes up-rez too). Once the video is slowed way down, you apply warp stabilization in AE/PR until you get it to a point that is acceptable. This requires a lot of levers and pulleys; which slow-motion model, what target frame rate, what setting for warp stabilization etc. When you get the video to a point of acceptance, speed that sucker back up to the original frame rate. If you have any resulting flicker, try using something like Digital Anarchy's Flicker Free slow motion mode to make it less bad.

## Recommended Tools

### Neat Video

Neat Video is a noise, flicker, and image restoration tool that works within Premiere and After Effects. It's incredible and worth every penny. Best in class for noise reduction. Running too slow? Open up the plug-in and click on settings, launch the performance tab, and watch the plug-in's efficiency go from 2 to 11. Very important steps to take as it doesn't do this automatically.

# BorisFX Continuum

In addition to a sweet package of visual effects (Sapphire), this Boston based company behind Mocha also produces a suite of image restoration tools. Things like: gradient repair, noise removal, image debanding, etc. Absolutely worth the \$37 / month when you need it.

## Topaz

Topaz has a suite of tools for up-rez, adding in frames for faux slow motion, and de-noise. Pretty great software. Highly recommended. They are the best in class for up-rez and faux slow in my opinion. Video Ai is the one that I've used the most. It's helped me up-rez VHS and BETA-MAX videos and it's done a pretty good job at that. I've also used it for stabilization and adding in frames for faux slow. Topaz also regularly updates their products so there's constant improvement. Be warned though: even on a zippy-as-hell computer, you're going to be doing a lot of waiting.

Thankfully, Topaz doesn't do a "subscription" model. Instead, you buy it and get 1 year of upgrades. When the year has expired, you can continue to use the most recent update in your previous upgrade cycle - and when you want a new version, you just pay for another year of upgrades. This is probably my favorite model for software that is constantly changing. Very fair.

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