



Nucoda

Case Study:

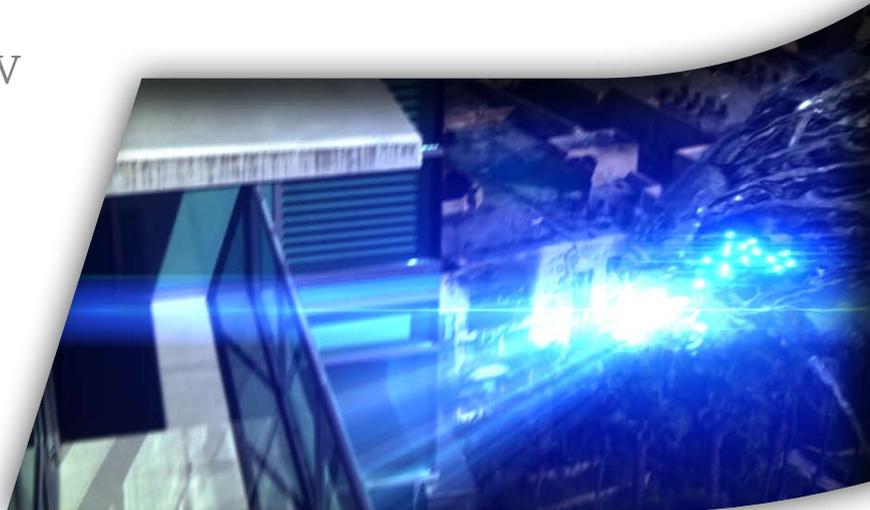
Hydraulx Builds Innovative DI Workflow
Based on OpenEXR for Skyline.



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Hydraulx is the uniquely designed, award-winning post production facility based in Santa Monica, California, operated by Greg and Colin Strause, a.k.a. The Brothers Strause. Their innovative company has built an extensive list of blockbuster visual effects credits including Iron Man 2, Avatar and Wolverine. Their directing credits include AVPR: Aliens vs Predator – Requiem, and now Skyline.

In earlier DIs, the brothers had felt what Greg called “digital handcuffs,” and set out to create an end-to-end DI workflow that mimicked the image quality of a visual effects pipeline. Hydraulx relied upon Nucoda Film Master from Image Systems, throughout post for their latest sci-fi thriller Skyline, and redefined the entire post production in a revolutionary start-to-finish floating point, 16-bit OpenEXR/HDR workflow in the process.

To facilitate high-quality manipulation of images, the Nucoda Film Master was used in 32-bit floating point processing mode, utilizing the OpenEXR “float” file format. This innovative “half float” pipeline, as used by the likes of Pixar, allows the intended quality envisioned by the creators to be retained and delivered. Hydraulx has built a meticulous quality control process for the pipeline they’ve designed by implementing custom, proprietary software that completely automates the process of tracking visual effects shots. “Our tools and processes push our accuracy past our competitors and support a powerful workflow for thousands of VFX shots,” explains Greg.

The Brothers Strause’s ambitious film, Skyline, was shot with the RED One MX camera. According to Greg, the MX capabilities exploited the sensitivity and incredible dynamic range of the sensor, which was extremely important to the filmmaking duo. Colin further explains that, “with the MX chip, you can push from 400 to 3,200 ASA. By 3,200, you are really pushing the images, and there is noise. We had shots that we didn’t know whether they would work in the movie. But because of the Film Master’s capabilities to reduce noise, it worked; and it looked like you shot it at 400 ASA!”

“Nucoda Film Master is the ideal tool to help capture the dynamic range that the new cameras offer,”

From the outset, the directors wanted to work natively with the full dynamic range available to them; this offered them greater creative freedom by preserving all of the precision and dynamic range seen on set through every step of the pipeline. OpenEXR, directly extracted from the RED native raw format, is a standard visual effects format, and has been implemented by Image Systems for real-time DI and color grading. The team at Hydraulx and The Brothers Strause determined that the entire post process, from start to finish, would remain in OpenEXR, making Skyline the first live-action motion picture to be completely finished in this format. This offered them greater creative freedom by preserving all of the precision and dynamic range seen on set through every step of the pipeline.



“We wanted to create a new model that followed that dynamic range from production all the way through the final color matching,” Greg adds. “The most exciting aspect of the process was our ability to stay in the color space of acquisition. Once we put the RED files in – in 16-bit floating point – they remained there for the duration.”

Colin notes, “The movie originated digitally in a photo linear metric color space and we were hopeful to stay in that color space. We were able to keep the OpenEXR format from the RED camera through our rendering process, during compositing, and then export them as floating point all the way to finalizing our work and digitally delivering to theaters.

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Everything stayed floating point all the way through. Nucoda Film Master is the ideal tool to help capture the dynamic range that the new cameras offer. The idea that your DI tool is completely resolution independent was really important to us.”

Martin Bennett, MD UK / VP Worldwide Marketing for Image Systems, notes, “The team at RED worked on a new version of their SDK which enabled Hydraulx and Image Systems to build a production delivery OpenEXR pipeline. Hydraulx is a major VFX facility, and the team there fully understands that being able to work in HDR mode opens the door to wider creative choices.

Managing and grading every frame of this film in this manner during the DI afforded them greater flexibility and more options by giving them more data to work with in every frame and every shot through every part of the process. The powerful OpenEXR capabilities of the Nucoda Film Master helped them achieve their goal creatively and with the highest level of precision possible. With this workflow, creative no longer needs to choose which part of the camera range they should work with initially. You can keep all resolution, ranges and precision until the final delivery.”

“The work that we do at Hydraulx is inventive and demanding. We work with some of the most creative talents in the industry; our tools and methodology have to keep up. When we met with the team from Image Systems and dug into the OpenEXR architecture of the Nucoda Film Master, we saw that it would serve both our films and the visual effects clients of Hydraulx in an extremely powerful way,” says Greg.

At the heart of Image Systems technology is market-defining color management functionality, highly creative grading tools and comprehensive stereoscopic 3D features for post-production. “To be working with Colin, Greg and the rest of the Hydraulx technical and creative team has been extremely exciting,” Bennett remarks. “We’re confident that their future is very bright and we are delighted to be on the rise with them.”

Colin notes that the next venture for the brothers is a stereoscopic project, for which they purchased a second Film Master. ***“We are not going back in time,”*** he says, ***“we are just going to keep rocking it forward with Film Master.”***

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