

A look behind the design of KODAK VISION3 film

InCamera sat down with Merrick Distant, product systems engineer and project manager for the KODAK VISION3 500T Color Negative Film, to find out about the breakthroughs in emulsion science that were leveraged during the development of VISION3. Below are excerpts of that conversation.

Q How do you decide what to focus on when developing new or enhanced features for motion picture films?

A We ask our customers, including cinematographers and post-production professionals, what advances they would like to see in Kodak film technology. We also work hard to understand how they use our products in current workflows. Many of our customers asked us to reduce the grain in our 500-speed (KODAK VISION2 5218) film, while maintaining the same high level of image sharpness and resolution. They thought this development would be especially valuable for projects produced in Super 16, and in combination with the rapid evolution of digital postproduction workflows.

Q What new technologies were integrated into the design and development of KODAK VISION3 500T film?

A We made certain enhancements to the advanced technologies found in the KODAK VISION2

films, such as two electron sensitizers and triple coated magenta and cyan layers. We also replaced the advanced development accelerators in the most sensitive layers of the VISION2 film with new advanced development accelerators and more efficient high-activity couplers in the red sensitive sub-records. Additionally, we developed advanced Dye Layering Technology (DLT) that is incorporated into the green and red sensitive layers of the VISION3 film. These developments give the new emulsion a capacity for capturing and processing light more efficiently. The net result is that DLT-sensitized negatives record images with much finer grain without sacrificing film speed. The new film also incorporates sub-micron imaging sensors, which leverage core Kodak technology that was initially developed for still photography. These sensors have the unique effect of providing increased discrimination as the light intensity increases with impressive image integrity.

Q How will these innovations translate into features and benefits for filmmakers, particularly cinematographers?

A The utilization of advanced DLT in combination with the new advanced development accelerators allows the cinematographer to underexpose film without noticeably increasing grain or noise. Therefore, they get much better results in extremely low-light environments. The noticeably lower grain in underexposed areas

enables them to rate the new film at higher speeds. The increased discrimination and high signal-to-noise response provided by the sub-micron imaging sensors results in extended latitude for recording details in the brightest highlights, reducing concerns about blown-out highlights on set. Cinematographers can also extract more image information from highlights during digital post-production without introducing artifacts.

Q How will the new film affect digital post-production workflows?

A The combination of new features such as a more linear tone scale, higher signal-to-noise response in both the shadow and highlight regions, and higher resolution offer filmmakers significant flexibility – as well as reducing time and saving costs – during digital postproduction. VISION3 actually adds more workflow efficiencies throughout the entire chain.

Q What are the possibilities for ongoing advances in film technology?

A We believe that the introduction of the KODAK VISION3 platform is a significant breakthrough. However we are not intending to stop here. We will keep listening to our customers and raising the bar. Our research scientists are continuing to innovate and provide new features that are beneficial to filmmakers.

