



Dark Energy Xenon™
By Cinnafilm®



Dark Energy® | For Transcoders



THE AUTOMATED HDR CONVERSION SYSTEM YOU'VE BEEN WAITING FOR

Dark Energy Xenon (Xenon) combines Cinnafilm's industry-leading texture management and noise removal technology (Dark Energy) with the state-of-the-art Advanced HDR by Technicolor solution.

Xenon is an enterprise-grade, HDR conversion system that provides an incomparable file-based solution for automated, high-quality HDR conversions from SDR source material and cross conversion between different HDR standards.

Xenon's output capabilities breathe fresh life into SDR libraries for OTT delivery and viewing on the latest home theater technology. It also streamlines editorial and production workflows for non-HDR content to be seamlessly edited into natively-

captured HDR material. Xenon converts SDR to HDR using Technicolor HDR Intelligent Tone Management technology to generate up to 2,000 nit assets from SDR sources.

Technicolor HDR (SL-HDR) is Xenon's solution for converting between HDR formats as different broadcasters want to be able to conform HDR assets to their standard. HLG, SLog3, and HDR10 formats are all supported by Xenon.



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Overview

It is impossible to take an SDR asset and tone-map it to the HDR color space without addressing noise. We've all seen HDR upconverts where the dark sections of the image are crawling, or the sky has a strange pattern or shimmer that just isn't natural. Using the automated process of Xenon, users can take standard definition/dynamic range material, remove noise or grain and reapply as needed, upres to HD or UHD, and tone-map with to up to 2,000 nits of HDR brilliance! The simplicity of Xenon, a combination of Cinnafilm Dark Energy and the state-of-the-art Technicolor HDR ITM software, gives new options to efficiently convert your libraries of SDR into high-quality HDR content. Do your part to bring trillions of archived content hours into millions of living rooms equipped with HDR televisions.

Features

The automated Xenon process is available in enterprise-grade transcoding solutions (initially our own RadiantGrid).

Dark Energy for Transcoders

- Automated denoise/degrain with 4 unique filters to address
 - Film grain
 - Gaussian noise
 - Chrominance noise
 - Luminance noise
 - Dustbusting
- Superlative upres with multi-stage sharpening
 - SD ↔ HD
 - HD ↔ UHD
 - Downres
- Image texture generation
 - Broadcast appropriate image texture
 - Film grain simulation

Advanced HDR by Technicolor

- Technicolor HDR ITM (Intelligent Tone Management)
- Technicolor HDR (SL-HDR) converts HDR to SDR/HLG/HDR10/SLog3 HDR formats while maintaining metadata of the original HDR asset
- Tuning capabilities for broadcast engineers, content creators, colorists, etc. to bring their own unique sensibilities when creating HDR from a native SDR file source
- Automated bright spot analysis and management to ensure excessive bright spots are not created during the process
- Content is automatically and dynamically adjusted, on a frame-by-frame/scene-by-scene basis
- Preset profiles to match different artistic intent
- Algorithms based on a machine learning system and years of experience from Technicolor research and innovation teams