

**Autodesk®**  
Lustre® 2009

Tools. Performance. Workflow.



Autodesk®

# Autodesk Lustre software is the premier high-performance digital intermediate color-grading system. Shape color and lighting with unprecedented precision to establish narrative tone and create stylized looks.

Our colorists can now easily define multiple projects, manage configuration options, and establish user-preferences through the Project Management tool. By streamlining data management and allowing us to focus on grading, Lustre has become indispensable.

—Ivar Beer  
Head of Digital Postproduction  
CinePostproduction GmbH

#### **Bring Your Vision to Life**

Autodesk® Lustre® software gives you the creative tools you need to build a look that establishes your unique vision or sells your client's ideas with compelling effect. Enhance your content with vivid color. Shape the audience experience using complex secondaries to isolate the parts of the shot you need to draw out and highlight. With Lustre software's rich creative toolset, your imagination is the limit.

#### **Production-Proven Nonlinear Color Grading**

Compare multiple shots anywhere in your sequence to maintain continuity of color and lighting across your entire timeline. Jump between shots instantly, and see them side by side in different contexts. With a nonlinear workflow and a fast, high-quality image pipeline, you have time to do more by experimenting with as many grades and variations as you like.

#### **Produce High-Quality Results in Real Time**

Autodesk Lustre is available in different configurations with performance options ranging from cost effective graphical processing unit (GPU) acceleration to high performance Autodesk® Incinerator® software parallel processing. Lustre is designed for creativity and interactivity without the need for proprietary hardware.

#### **Streamline Your Facility Workflow**

Take advantage of the flexibility of the Lustre system to build open and scalable collaborative color-grading workgroups. Save time with Autodesk® Wiretap™ technology, an advanced application programming interface (API) that provides access to media, clips, and timelines stored on Autodesk® Stone® software disk arrays. This capability enables you to color grade an Autodesk® Smoke® or Autodesk® Flame® software timeline in Lustre without duplicating media or transferring media across the network.

Autodesk Lustre 2009 is available for both Microsoft® Windows® and Red Hat® Enterprise Linux® operating systems.



Image courtesy of Imarion Inc

# New Features in Lustre 2009



Image courtesy of Sonne A/S



Image courtesy of Mikros Image



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Image courtesy of CinePostproduction

Our Autodesk workflow is just blazingly fast. It doesn't matter what the clients ask for; we can do it quickly.

— Pankaj Bajpai  
Colorist  
PostWorks LA

## **Stereoscopy**

The world's leading film production companies are investing in 3D stereoscopic cinema—primarily for animated computer graphics (CG) and visual-effects intensive movies. Autodesk's solutions are designed to empower the entire stereo pipeline, from 3D to 2D compositing and color grading. Speed the process of grading, previewing, and rendering left and right eye media with the automated stereoscopic tools in Lustre.

## **Project and User Management**

Lustre introduces a simple and intuitive interface for managing your projects, an essential requirement for fast-paced short-form grading. Define multiple projects, set render paths, manage configuration options and establish user-preferences—quickly.

## **Audio Input/Output (I/O) and Playback**

Lustre provides integrated audio I/O with eight channels of synchronized playback. This key new feature makes it easy to capture audio directly from a video source and use sound as an element of look design. Variations in narrative and tone, sound effects, and other audible cues can be more effectively used to guide look development, enhancing the overall viewer experience.

## **Timeline Shot Prioritization**

Define exactly which shots in a multilayer stack are displayed during playback, laid out to tape, or rendered to disk with the new timeline shot prioritization capabilities in Lustre. Use this feature to apply multiple versions of a grade to a single shot, the same grade to multiple versions of a shot, or a combination of both. Timeline shot prioritization facilitates rapid brainstorming and testing of ideas in your client-attended sessions.

## **Timeline Sort Mode**

Rearrange the shots of an assembled edit decision list (EDL), grade the sorted shots and then return them to their original EDL order with the new Timeline Sort feature. For example, you can sort shots in A-mode or C-mode and grade in the order that the footage was shot rather than the order it has been edited. Now you can work on edited footage reel by reel, and improve grade quality and consistency.

## **Customizable Control Panel Sensitivity**

Lustre also offers the ability to adjust the response sensitivity of the control panel to suit each colorist's individual preferences. A separate configuration file can be created for each user with custom sensitivity settings for the panel dials and track-balls.

# Key Lustre Features

Autodesk Lustre software combines some of the best creative tools, scalable performance, and efficient workflow to explore highly innovative color looks for film or video material at any point in the post-production pipeline.

## Creative Tools

Explore creative options and develop looks that were previously impossible in film and television with the innovative Lustre creative toolset.

- Primary and secondary grading
- Freehand shapes and geometries
- Hierarchical shape system
- Advanced GMasks
- Multipoint and region-of-interest tracking and stabilization
- Pan and scan
- Automatic dust removal
- Keying

## Performance

### Real-Time Inline Processing

The Autodesk® Incinerator® scalable, ultrahigh-performance computing software cluster accelerates the digital color-grading process to provide extensive real-time interaction for even the most demanding client-attended grading sessions.

### GPU-Accelerated Plug-in Processing

Autodesk® Lustre® offers extensive GPU capabilities for cost-effective high-performance grading. Lustre takes advantage of the graphical processing unit (GPU) to accelerate the core primary and secondary grading tools and several of the Lustre effects\* plug-ins. GPU grading significantly boosts the real-time interaction and capability of the Lustre system.

\* Blurmixplugin, Glowplugin, Noiseplugin31, Printbleachplugin

## Workflow

### Multilayer Timeline

Lustre provides a powerful conform toolset for building timelines and handling editorial changes, which, in the Digital Intermediate (DI) suite, are a fact of life. The multilayer timeline in Lustre gives colorists the gestural tools they need to make edits, shot versions, and grade versions quickly. Try out multiple looks on a single shot or rearrange the shots of an assembled EDL and then easily apply the looks across multiple shots.

### Automatic Region Tracking

Automatic detection of tracking points within a secondary geometry makes it faster than ever to track elements of the scene and automatically apply position, scale, and rotation transformations to any shapes. You create the shape and let the tracker do the rest. Subpixel precision helps to make sure accurate tracking for difficult shots, such as those with noise or grain.



Image courtesy of Nordisk Film ShortCut



Image courtesy of Nordisk Film ShortCut

## Color Decision List

The American Society of Cinematographers' color decision list (ASC-CDL) was developed to make sure that images appear the same when displayed in two different places on two different platforms, leading to a consistent look across the different stages of post-production. Lustre enables you to import multiple CDLs—either as slope-offset-power (SOP) values in an edit decision list (EDL) or as files referenced in the EDL comments—and apply the CDL data on a per-shot basis in the Lustre timeline.

## Shot-Based, Nonlinear Grading

The digital nonlinear workflow enables you to jump around instantly to see any shot in the timeline or shot bin. Easily view multiple shots side by side, such as the first and last shot in a sequence, in different contexts. Stack multiple versions and apply a grade to multiple, noncontiguous shots simultaneously.

## One-Click Proxy Workflow

The Lustre proxy workflow can improve system performance and reduce intermediate storage requirements and network file transfers by giving you the choice of using half-resolution images or full-resolution images.

## Lustre Color Management

Lustre Color Management software is an integrated, out-of-the-box solution built upon custom-made look up tables (3D LUTs). These 3D LUTs perform highly accurate film print stock emulation for the most common film stocks and color space conversions for output to formats such as the XYZ color space 16-bit TIFF files specified in the Digital Cinema Initiatives (DCI) specification.

## Interlaced Video Rendering

Autodesk Lustre supports true field-based rendering, grading interlaced video using animated roto-shapes, animated repositioning, or resizing. Lustre is ideal for both progressive frame-based footage and interlaced field-based video material.

## Autodesk Control Surface

A unique and beautiful modular three-ball control surface, designed for use by colorists to streamline the grading process, is available as an optional component of any Lustre configuration. The control surface gives colorists a highly ergonomic means to access Lustre controls and the response sensitivity can be customized according to each colorist's individual preference.

# Lustre Configurations



Image courtesy of Sonne A/S

Choose the Lustre configuration that's right for you.

## **Autodesk Lustre Master Station for Microsoft Windows and Red Hat Enterprise Linux Operating Systems**

The Lustre Master Station is a premiere color-grading solution designed to handle any project from SD/HD video to 2K/4K feature film digital intermediates. It offers GPU acceleration for real-time performance and support for high bit-depth file formats.

The Lustre Master Station is designed for interactive sessions where the colorist works together with the cinematographer. It has an extensive creative toolset for elaborate grading and visual design as well as for dust-busting, rotoscoping, and mastering tasks. You can enhance the Master Station capabilities with optional hardware add-ons.

## **Autodesk Lustre Incinerator Master Station for the Linux Operating System**

The Autodesk Lustre Incinerator Master Station provides an ultrahigh-performance, all-in-one solution for real-time digital grading. It is designed for highly interactive sessions where the colorist works together with clients and cinematographers.

An integral component of this configuration is the Autodesk Incinerator inline clustering technology to accelerate complex image processing tasks. Autodesk Incinerator is a completely modular system based on open commodity hardware such as the latest in multicore technology and Infiniband™ technology.

## **Autodesk Lustre HD Station for Microsoft Windows and Red Hat Enterprise Linux Operating Systems**

The Lustre HD Station is a cost-effective configuration that harnesses the power of the GPU to accelerate primary and secondary grading capabilities, providing interactivity and real-time capabilities for SD and HD television grading. Based on the same creative toolset as the Lustre Master Station, Lustre HD is the ideal solution for a broad range of post-production facilities, broadcasters, and independent HD film DI facilities working on short-form or long-form content.

## **Autodesk Lustre Assistant Station for Microsoft Windows and Linux Operating Systems**

The Lustre Assistant Station can be used by an assistant to perform many noncreative preparatory tasks such as shape tracking, dust busting, and video I/O. As an integral component of a collaborative color-grading workgroup, the Lustre Assistant Station enhances workflow efficiency and has the ability to free up the colorist to concentrate on the highly creative, client-facing color-grading tasks.

## **Define Your Color-Grading Workgroup**

Workgroups are collaborative grading environments designed to allow colorists and assistants to work together concurrently on projects. Build a collaborative color-grading workgroup to meet your exact requirements. Expand and scale this pipeline as your business grows. Lustre is designed to be highly configurable, enabling you to combine multiple core solutions with other Lustre options such as Autodesk Incinerator, Autodesk Lustre Media Servers, and Autodesk® Burn® software and solutions.

Take advantage of using modular resources between multiple workstations, deployed dynamically as part of an integrated multiseat color-grading workgroup, and get the most out of your facility—in less time.

## **Open Color Management Architecture**

Lustre is designed to be colorspace agnostic, making it equally suited to film, video, and digital camera acquisition. It also provides an open framework for integrating multiple color management tools, including open systems from vendors such as Kodak®, Imagica®, ARRI®, and Rising Sun, as well as custom facility solutions. Lustre meets the highest quality requirements of DI and is capable of grading to the most exacting standards, such as the 16-bit linear 4K format recommended by the American Society of Cinematographers and the Digital Cinema Initiatives.

Lustre software's ability to play back from the Smoke storage in real time is just amazing. We don't have to recapture anything. That is a great advantage to this workflow.

—Alex Olegnowicz  
President  
Imarion, Inc.

#### Learn More or Purchase

For more information and a complete list of features and enhancements in Autodesk Lustre 2009, visit [www.autodesk.com/lustre](http://www.autodesk.com/lustre).

Autodesk offers a wide range of visual effects, editing, finishing, and color-grading solutions to artists and post-production facilities looking to fully realize their creative ideas. These solutions include Autodesk® Inferno®, Autodesk® Flame®, Autodesk® Flint®, Autodesk® Smoke®, and Autodesk® Lustre® software applications.

For more information about the entire Autodesk visual effects, editing, finishing, and color-grading product portfolio, visit: [www.autodesk.com/me](http://www.autodesk.com/me).

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