flame®

WORLD-RENOWNED VISUAL EFFECTS AND COMPOSITING

flame is Discreet's industry-acclaimed Academy Award®-winning visual effects and compositing system, offering superior performance and advanced tools so artists can experiment freely as they design broadcast graphics and visual effects.
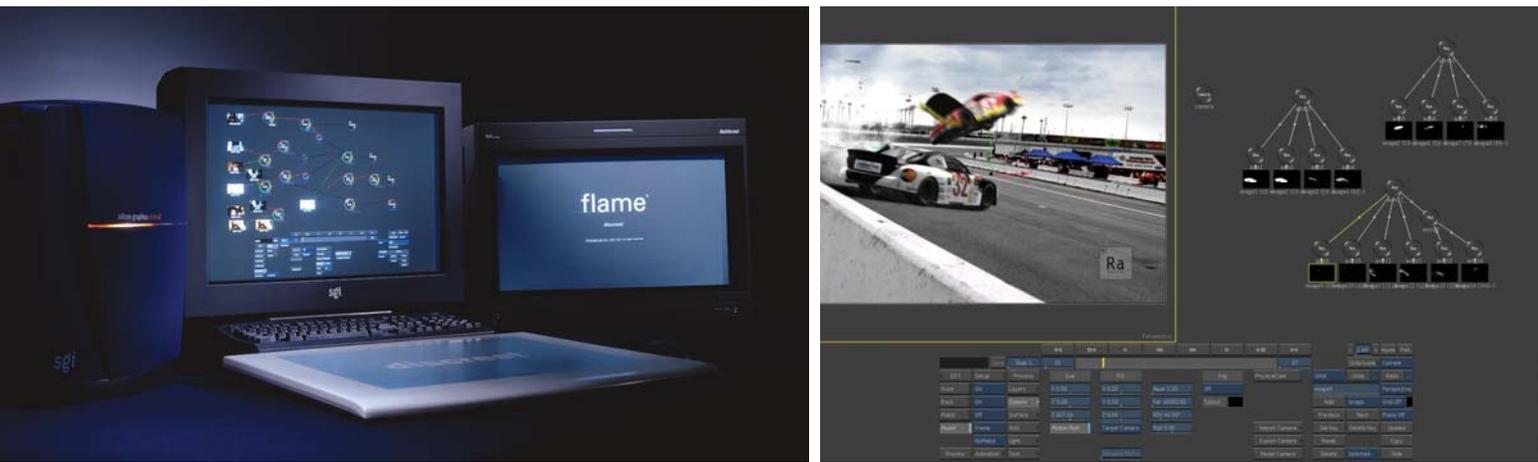

Image courtesy of Radium

key features

- Expanded Colour Warper™ module: new modes, invert/blur matte, pressure-sensitive trackballs

- Enhanced Tracking with faster, asynchronous frame access and pre-track display

- Text module includes new support for Japanese multi-key keyboard input

- Disk caching: intermediate stages in Batch can be cached to disk improving workflow and performance

- Archiving table of contents: creates an HTML/XML reference with JPEG proxies for browsing offline

- Advanced Expressions: library, π, conditionals, Booleans, min/max, Bell, Ease, Align and more

- Real World Measurements such as inches/cm facilitate set reconstruction and compositing 3D and live elements

discreet™

colour warper
- Radically new, fast software color corrector provides a more intuitive primary and secondary color correction workflow (analogous to telecine)
- Interaction models combine with landmark new color-space manipulation algorithms; includes pressure-sensitive trackball emulator for greater control
- Speeds up technical tasks, from color matching scenes to black and white point adjustments
- Match feature analyzes images and automatically matches colors, ranges of colors or images (scene to scene color correction)
- Fine Tuning tool warps RGB space to produce high precision adjustments previously impossible
- Intuitive precision tools include a GUI-based vector scope and a graphical 3D color tool
- Allows for multiple levels of precise color-balancing and selective color correction in a single pass
- Animatable functions allow easy adjustments and controls of lighting in a scene over time
- New Suppress and Saturate modes
- Invert and Soften matte options

tracer
- Accurate edge-keying tool, ideal for keying hair and fur
- Supports multiple keying points, each with individual control over key parameters
- Pulls keys from archival material (non-bluescreen)
- Improved animation allows artists to track or animate a garbage mask while keeping full control over shape interpolation
- Artists can add vertices between animated vertices while preserving proper shape animation

keyer/modular keyer
- Sub-pixel accurate Keyer (RGB, YUV, HLS, RGBCMYL and custom)
- Variable edge treatment and softness, with Gaussian blur
- Shadow, reflection and transparency keying capability
- Unlimited, trackable, spline-based, animatable garbage masks
- Innovative pipeline environment enables processes to be added as needed, and resulting key viewed in-context
- 3D histogram of RGB space enables fast and accurate manipulation of key parameters
- Powerful new algorithm ideal for pulling keys with transparencies, quickly and accurately
- Optimized pipeline provides fast blending of multiple matte layers

channel editor including new expressions
- Provides a flexible interface for viewing, sorting and editing channels (parameters)
- Provides easy effects grouping and time-cascading
- Channels can be keyframed or have Expressions applied
- Artists can store expressions in a library for reuse/reference
- Expressions can reference other channels and perform mathematical operations between them
- Multiple channels can be simultaneously selected and have an Expression applied
- Different characteristics of an element can be related, e.g. an object's shininess can be made to vary as a function of its distance from light source

image processing: filters and optics
- Emboss, fabric, halo, reticulate, sharpen, soften, glow, and many other effects

action module
- Truly interactive 3D design environment for effects and compositing, ideal for in-context creative decision-making
- Infinite number of layers, each with independent control of key, color correction, tracking and axis attributes for in-context adjustment
- Extensive 3D capabilities, including: model importation, integrated 3D tracking, text creation, displacement effects with lighting and shadows, an unlimited number of light sources, and a powerful online 3D particle system for explosions or atmospheric effects
- New Texture Projector projects images onto a 3D scene using various compositing modes (blend, additive, etc.) allowing users to recreate 3D environments from 2D imagery easily and/or create advanced lighting effects (textures can be projected onto selected objects only)
- Real-world measurements, units such as feet or cm can be specified
- True-to-life camera attributes, including depth-of-field, with fully-animatable and editable parameters
- Provides up to four simultaneous views
- New camera node and improvements, including free camera-parent objects to/from camera; free camera simplifies support of motion control data
- Surface blending modes, e.g. transfer modes such as screen, min, max, multiply in surface menu
- Includes extended Bicubic surfaces for warping distortions based on surface points
- Automatic node connection (auto-parenting) in the Schematic speeds the creation of complex hierarchical animations

batch

- Powerful process tree module provides high efficiency with quick and reliable execution; view each node in-context of the entire scene
- Includes all major modules and sparks™
- Interactive UI for adding, selecting and deleting nodes including multi-selection, hide and highlight path functions
- Powerful new caching and bypassing functions allow automatic or user-set "pre-rendering" of certain parts of a Batch tree, dramatically increasing interactivity speed, especially with larger trees
- Avoid reprocessing the same nodes when navigating the timeline
- The I/O Node supports wire® and on-the-fly[1] remote framestore transfers (cross-resolution) into RAM and allows import and export of image files from the system disk (all IFF-supported formats); includes all import/export image functions
- Batch Scripting provides all the power of UNIX scripts: scripts can be executed at any point, enabling custom effects, preview clip and QuickTime® movie generation, or e-mail and web notification
- Batch Log outputs current status to HTML or text files, so artists can remotely monitor render progress via web browser
- Robot Batch: automatically start a Batch render on the command line or from a script, either locally or from a remote location
- LUT Node converts data from log to linear and vice-versa; instantly create multiple versions (wedges) and come back to tweak conversion without having to re-import footage
- 16 new logical operations
- Nodes: Colour Warper, Motion Estimation Time Warp, Modular Keyer, Gmask, Interlace, Deinterlace, film compress/expand, Optics, and many more
- Full setup compatibility with inferno® and flint® Gmask, Tracking, Color Correction and Keying setup compatibility with combustion®

film tools and advanced visualization

- Allows users to reliably reproduce images that match the look of projected film
- Provides grain management tools including the analysis and matching of various film stocks
- Monitor Calibration, using X-Rite or Barco device ensures accurate color level measurement
- Can make manual adjustments to monitor curves (Gamma, Gain and Offset): enables a standard from which any project-specific tweaks can be executed
- Load custom LUTs or use film S-curves to simulate what specific print stocks (vision and premier) look like when projected

grids and guides

- Fully customizable guides enable smooth transitions between different aspect ratios
- Fully customizable safe-areas
- Fully customizable work area (i.e., academy guides within full-aperture 35mm)

2D/3D integration with 3ds max™ software

- Dramatic in-context workflow acceleration for everyday types of 3D work—logos, text, graphics
- Direct import/export of 3ds max (.3DS) camera data, models with multi-resolution textures, surface attributes
- Support for high-resolution textures, without limitation of partition resolution, increases rendering quality

warper

- Freehand, sequence or cross image warping for distortion effects, image transformation and morphing
- Editable curve handles with full spline control
- Customizable mesh-based warping with unlimited trackable mesh points

3D deformations

- Precise manipulation of 3D models using lattice-based 3D mesh
- In-context adjustment within the entire scene
- Reduces project turnaround time by eliminating export to dedicated 3D systems

color correction

- Real-time preview of offset, gain, gamma, hue, saturation, and contrast
- Shadow, midtone, and highlight color correction
- Full histogram control; spline-based curve control look-up tables

paint

- User-definable brush sizes, shapes and effects
- Sophisticated autopaint capabilities: animate, track, and record brush strokes, multi-layer graphic shapes or cut-outs for automated rotoscoping, precise matte extraction or travelling mattes
- Real-time warp brush and paint effects
- Wide view of full film-resolution image while painting

stabilizer and tracker

- Precise motion analysis for 2D motion tracking with perspective; tracks up to 1000 points in one pass
- Pre-track feature previews track path for next few frames prior to analysis
- Stabilizes footage: compensates for transfer jitters or unstable cameras
- Automated corner pinning, mesh warping

1 on-the-fly means no need to wait—frames are loaded only when the Batch tree requires them; no need to save to framestore first

text

- Imports standard Adobe® Type 1 and TrueType fonts, including Asian (CID) fonts, ASCII text files
- Supports Japanese keyboard entry; multi-key character input
- Full attribute control (e.g. scaling, rotation, kerning) over character, word, line or page
- Unlimited layers of animatable text with full scrolling and crawling
- Independent character adjustment of fill, outline, transparency, shadow, underline, kerning and axis
- Cut and paste text from other SGI applications (e.g. Netscape Browser)
- Three-click selection (edit, word, paragraph)

editing/EDL

- EditReel: gestural, picture-based editing interface for easy viewing and intuitive operation
- Real-time feedback and full resolution playback
- Timewarp: fully-animatable speed curves with adjustable inter-frame mixing and trailing
- User-definable editing hotkeys
- Locked reels allow comparison of multiple clips
- SoftEdits: create or undo edits, transitions and speed changes for creative experimentation
- Unlimited number of Undo/Redo on desktop
- EDL import/export (CMX, SONY, GVG) of cuts, dissolves, freeze-frames, vari-speed, reverses, split edits and comments
- Loads and auto-captures an unlimited number of EDLs simultaneously with adjustable trim handles
- Complete EDL management toolset
- Rapid auto-conforming

resolution-independent, open architecture

- 8-bits or 12-bits per channel color depth
- Supports any resolution up to 4K
- Over 400 sparks third-party plug-ins currently available to further extend the system's capabilities

audio

- Scratch track audio; two I/O tracks, two internal tracks
- Waveform display with zoom, meter, tone generator
- Editing: cut, splice, and dissolve audio
- Segment-based audio editing: trim, slip, slide
- Full feature support of external audio controller with transport control and hotkey mapping ability (JL Cooper MCS-3000)
- Includes audio plug-ins
- Audio library integrated in Player
- Real-time playback/scrubbing of video with audio
- Import and Export of audio for many industry-standard audio file formats

project management tools

- Project-based working environment
- Desktop and libraries can be viewed in proxy mode or as a multi-column list with searching/sorting tools
- Storage consolidation tools
- Fast and reliable archiving of audio, video and setup files to different devices
- Selective restore from compact archive
- Archiving space optimization
- Improved backup and recovery of clip libraries
- Ability to tag clips as "archived"
- User-defined comment field

facility connectivity and workflow solutions

- Supports industry-standard image file formats
- Supports 3D models, AIFF audio, WAV audio
- mountstone™ connectivity to PCs
- Compatible with Discreet's editing and effects systems
- Direct interface to HDTV Philips Spirit Datacine
- Support for the ProntoVision HD DDR, Panasonic - D5 HD VTR Philips Voodoo D6 HD VTR and SONY HDCAM VTR

To obtain more information about Discreet systems and software visit, the Discreet website at **www.discreet.com** or e-mail product_info@discreet.com

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International call 514.393.1616

Contact your local reseller for sales information. Resellers are listed on the Discreet website at www.discreet.com/resellers

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