



smoke® 6.5 discreet®

For facilities who demand world-class creative editorial and finishing in a single system, **smoke** delivers unprecedented speed and workflow performance, real-time interactivity, and industry-leading visual effects tools. Offering flexibility to edit and finish at any resolution and in any format at the highest quality possible, **smoke** is the only editing system in the industry with real-time 10- and 12-bit 4:4:4 (RGB) media support for uncompressed 2K, HD and SD.

Key features

Editing

- Multi-Master Editing™ distribution in multiple formats from a single timeline
- Mixed resolution desktop and editing timeline
- Real-time 10-bit 4:4:4 HDTV editing¹
- Multi-format capture & playback including PAL/NTSC, 720p, 1080i, 1080p
- Support of 8/10/12-bit RGB (4:4:4) media
- Unlimited vertical timeline editing with nested containers for complex visual effects
- Advanced OMF and EDL conform tools, OMF audio with media
- Multi-channel audio editing and mixing
- Multi-tape archiving with browsable table of contents

Effects and finishing

- Interactive 3D DVE with 3D model import, lights and camera controls
- 3D compositing environment with high-speed tracking tools
- Primary and secondary colour correction tools featuring the Discreet Colour Warper™
- Advanced keying tools including the Discreet Keyer and new Master Keyer
- Complete set of title animation and character generation tools
- High quality raster-based paint and vector graphics tools
- Complete set of filters and transition effects
- Support for **sparks**™ plug-ins

Configurations

- **smoke SD** – SMPTE 259M 8/10-bit SDI standard definition video I/O available as either LINUX or IRIX turnkey systems
- **smoke HD** – SMPTE 259M 8/10-bit SDI high definition video I/O available as IRIX turnkey systems only



middle: Player with 3D LUT

bottom: Colour Warper

Images courtesy of Reel FX Creative Studios

Editing

- Real-time 2K, HDTV and SD editing (depending on hardware configuration)
- Support for 4K (4000x3000) resolutions in timeline
- Edit multiple resolutions and formats into a single timeline
- Support for 24, 25, 29.97, 30, 50, 59.94 or 60 fps
- User definable 720P timecode display (30/60)
- User definable resolution and frame-rate conversion
- Real-time letterbox and overlays, loop replay, BVB / VBV / VVV previews, field/frame monitoring, full resolution, or proxy monitoring
- WYSIWYG pan and scan
- Track-to-track, real-time video compare (e.g. online/offline) function with split bar
- OMF and EDL conform or capture clips directly to the Editdesk
- Gestural, picture-based editing
- Head/tail, timeline and storyboard editing
- Unlimited source/record areas with searchable libraries
- Vertical editing: unlimited layers in the timeline with video containers for flexibility with complex effects and versioning
- Improved track patching
- Cue points with comments for fast access to specified parts of timeline
- Creative editorial tools: 2- and 3-point edits, fit-to-fill, 4-point edits
- Trim to mark and/or position
- Track Editor lets you view and slide individual keyframes on a track with multiple tracks or keyframes selected
- Insert, overwrite, ripple replace and replace edits
- Multi-track trim, slip, slide shots, and transitions
- Soft edits: uncommitted edits, transitions and speed changes for creative experimentation
- SMPTE wipes and fully customisable bezier shape wipes
- Dissolve to/from colour
- Quick splice for adding edits into clips in the timeline
- "Remove match frame edits" function
- Source timeline comparative views for editing source timelines into new programs
- Multi-level match clip for quickly finding the original source material from a timeline clip
- Automatic audio/video sync break detection and correction
- Re-establish new sync relationships between sources
- Fully animateable speed curves with adjustable inter-frame mixing and trailing for vari-speeds
- Source to record match
- Soft Effects: Timewarp, Colour Corrector, Blend, Axis (including animated matte and keying capabilities) and **sparks** plug-ins
- Drag-and-drop Soft Effects directly on timeline clips and preview before processing
- Sophisticated simultaneous master timeline and container view
- Create, drag, drop and preview effects on any clip, segment, selection, or container in the timeline
- Multi-selection of soft effects with animation controls
- Multiple players on EditDesk for fast sync, trimming, and Soft Effects
- Capture proxy files only, reducing hard drive space
- User-definable hot keys and specialised keycaps
- Hot key dissolves, fades and audio crossfades
- Lock effects to prevent accidental modification
- Undo and redo for all editing operations

Audio editing

- Unlimited audio tracks with 32 tracks of real-time playback (Discreet Native Audio - DNA):
- Fully-integrated 24-bit 48 kHz audio subsystem (DNA only)
- Eight AES/EBU outputs from breakout box with SMPTE / EBU (LTC timecode output – sonic only)
- Audio waveform display with sub-frame (1/100) accurate editing
- Vari-speed audio scrubbing for selected or all tracks
- Audio timestretch with pitch correction control
- Audio mix-down capabilities including at file export
- Audio mixing capabilities with fully keyframeable animation control of audio levels, pans, and EQ during real-time playback
- VST Audio plug-in support (reverb, modulation, dynamic compression, full parametric EQ)
- Support of external audio controllers with transport control and hotkey mapping ability (e.g. JL Cooper MCS-3800)
- Audio file import and export (aiff, aifc, avr, bicsf, MPEG-1, nextsnd, samplevision, sounddesigner2, soundfront2, voc, wav)

3D compositing

- Two, three, or four viewports for precise 3D positioning and compositing
- True 3D-space with full camera control and multiple light sources
- Selective lighting with parenting affecting only specific layers
- Surface attributes like shininess and specular highlights
- Bicubic and extended bicubic 3D warping of DVE Layers
- Multiple DVE layers with independent control of key, colour correction, tracking, and axis attributes
- 3D text capabilities
- Full multi-selection schematic view
- Unlimited global transforms
- Auto linking for creating hierarchies
- Layer re-entry for sophisticated matte combinations
- Displacement mapping and motion blur controls
- DVE blend modes including add, multiply and subtract
- Import of FBX 3D files from **3ds max**® and other 3D applications
- Import multiple 3D models on a single layer
- DVE setup compatibility with **inferno**®, **flame**® and **flint**® Action modules
- Soft Resize
- Grids and guides for accurate positioning and element layouts

Colour correction and keying

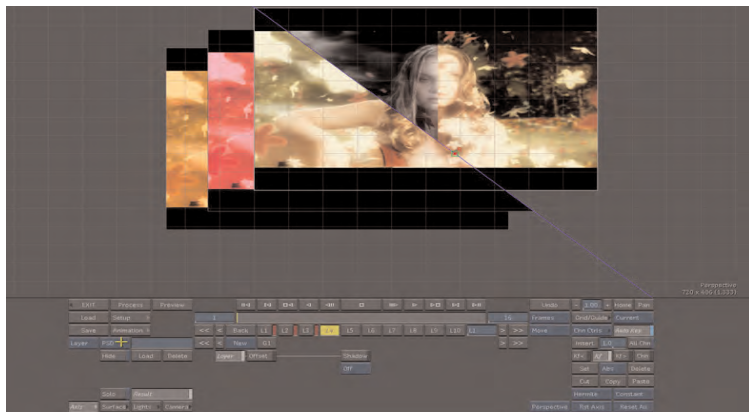
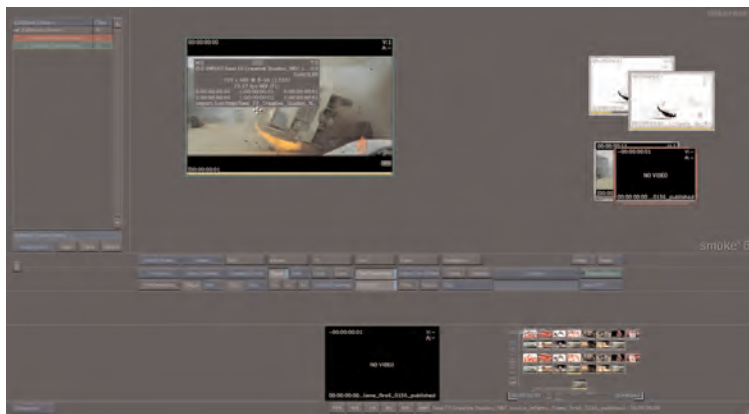
- Master Keyer with interactive gestural control for complex keying tasks
- Multi-channel Keyer (Colour Channel, HLS, YUV, RGB, or RGBCMYL, Luma)
- Adjust and animate tolerance, softness, shrink, and matte erosion
- Full colour suppression controls for accurate spill removal
- Foreground/background matte controls for edge blending
- Degrain tool for cleaner matte edges
- Unlimited number of spline-based garbage mattes
- Advanced gradient GMask for defining per-point fade-out from edge of mask
- Punch matte option for specifying front or back mattes to be used in the composite clip
- Track and automate spline-based garbage mattes
- Colour Warper™ for advanced primary and secondary colour correction
- Use 3D LUTs with a calibrated display to see how a clip will appear on the final medium, such as film. 3D LUTs also ensure consistency between different products including **lustre**®
- View a clip with a 3D LUT turned on to see the effect of a 3D LUT without altering the clip
- Commit and process the clip with a 3D LUT applied, allowing for real time clip viewing
- RGB control of hue, saturation, contrast, gamma, gain, and offset adjustments
- Histogram and curve controls
- Selective correction of highlights, midtones, or shadows
- Advanced colour selection and colour matching
- RGB colour re-wiring for colour replacement
- Internal waveform and vectorscope
- Comparison buffer for precise colour comparisons

Tracking and stabilisation

- High speed, high quality motion tracking with four-point corner pinning (perspective)
- Stabilise footage, compensate for transfer jitter and handheld cameras
- Track and automate spline-based garbage mattes
- Precise sub-pixel field or frame-based motion analysis/motion estimation tools
- Image magnifying glass for accurate positioning of tracker boxes
- Pre-track path analysis and display for more intuitive selection of potential track points
- Advanced controls for smoothing, refining or locking track data
- Offset, forwards and backwards tracking for flexibly tracking off-screen and occluded objects
- Copy and paste tracker values into any other channel in any module

Advanced paint and filters

- Advanced Paint module, including Autopaint with motion tracking
- User-definable brush properties include size, opacity, shape, jitter, pressure sensitivity, direction, roll and rate
- Paint effect brushes include blur, clone, drag, impressionist, recursive, reveal, smear, shade, stamp, warp and wash effects
- Animate, track, and record all brush strokes
- Animatable multi-layer geometry and cutouts (including bezier shapes)
- Complete drawing tools for motion graphics and garbage mattes
- Precise matte extraction for traveling mattes and fast rotoscoping
- Auto matte feature for quickly creating high contrast mattes
- Dirt, scratch, and wire removal using the Clone tools
- Hand-drawn garbage mattes and creative painting
- Map multiple keystroke sequences to a single button, field, or function
- Optics module for creating glow effects, emboss, fabric, halo, reticulate, sharpen, soften etc.
- User-definable matrices or procedural filters



burn™

With **burn**, facilities can leverage a larger pool of CPU power so that complex visual effects requiring intensive processing can be created more quickly – cutting production costs and reducing time-to-completion on a project. **burn** nodes process Batch setups in the background simultaneously freeing your online suite to continue with more creative tasks. Offering fast, cost-effective processing power, **burn** increases the processing capabilities of **smoke**. A maximum of 20 nodes is supported.

top: Clip Library with Stonifise menu
middle: Soft Import with Open Access
bottom: Photoshop PSD Import

Images courtesy of Fisher Edit, King Cut, Reel FX Creative Services

Advanced paint and filters (continued)

- Film degrain and regrain tools
- Video interlace/deinterlace, field merge, reverse dominance etc.
- Over 400 third-party **sparks** plug-ins available

Title animation and character generation

- Create unlimited numbers of animated text layers
- Import standard Adobe® Type 1 and TrueType fonts, including Asian (CID) fonts and ASCII text files
- Layer, paragraph and character hierarchy for layout and animation
- Independent character adjustment of fill, transparency, shadow, outline, underline, kerning, and axis control, logo import
- Animate all text properties including position, shearing, scaling and rotation by layer or character
- User definable tab stops for precise text layout
- Spell checking with customisable dictionary
- Create and apply user-definable font styles
- Roll and crawl layers with "Fit Best Speed" optimisation for precise roll/crawl speed
- Group, save, and load text layers as one unit

Animation Channel Editor

- Auto Keyframe capability
- Adjust based on absolute or relative values
- Explicit Keyframe, motion path or direct manipulation animation
- Full cut, copy and paste curves between channels
- Constant, linear and hermite animation curves
- Natural interpolation method for dynamically optimised smooth animations
- Mix interpolation methods between keyframes
- Extrapolation setting for controlling the curve before the first and after the last keyframe
- Curve functions to swap, flip, reverse, simplify, and remove jitter from curves
- Stretch, compress, and offset groups of channels interactively
- User-definable default interpolation modes

Conforming and I/O

- SMPTE 292M SDI: real-time 8-bit/10-bit¹ uncompressed 4:4:4 HD video I/O
- SMPTE 259M SDI: real-time 8-bit/10-bit¹ uncompressed 4:4:4 SD video I/O
- Import/Export popular graphics files (TGA, TIFF, SGI, DPX, PICT, JPEG etc)
- Support for 8-bit/10-bit²/12-bit¹ real-time RGB (4:4:4) media
- Direct import/export OMF compositions with audio media. Import Avid ALE log files
- Integrated EDL editor and comprehensive EDL management toolset
- Import/export CMX/SONY/GVG EDLs with cuts, dissolves, SMPTE wipes, freeze-frames, vari-speed, split edits, and comments
- 23.98, 24, 25, 29.97, 30, 50, 59.94 and 60fps EDL conform; 30 to 24fps EDL conversion
- Multi-layer, multi-track, or container assembly from multiple EDLs
- Batch capture multiple clips from EDL or Log file
- C-mode auto capture of multiple EDLs with adjustable trim handles
- Capture on the fly, or from In to Out point
- Automatic 2:3 removal on capture; automatic 2:3 insertion on output
- Multi-tape archiving to SD and HD VTRs including 1080/720 formats¹
- Output multiple clips directly from EditDesk or Clip Library
- Import Photoshop PSD format in it's layered structure or as a flat image
- Import/export QuickTime, SGI movie, MPEG and AVI
- Import Discreet **combustion**® tracker, stabiliser, colour correction and GMask setups

Storage and networking

- **stone**® arrays guarantees bandwidth for true random access of non-compressed video and film
- **stoneFS**: advanced file system guarantees performance and reduces fragmentation risks
- **stone** Switchable Storage: switch large volumes of data between systems instantly
- RAID 5 protection from data loss of audio and video media and non-obstructive background healing
- Capacity- and bandwidth-scaleable, including delivery in real-time of a single 2K stream, dual HD and 60i video streams
- Concurrent storage of clips in all supported resolutions without partitioning
- **wire**® networking for visual browsing and high-speed transfer of clips
- Intuitive user interface to browse remote libraries, view proxies, and scrub through clips
- Supports TCP/IP to run on any network

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smoke 6.5: overview of key features

A powerful new release, **smoke 6.5** was re-architected to provide a new, robust, high performance, resolution independent post-production environment.

Editing

- Real-time uncompressed, 10-bit 4:4:4 HD¹
- 8-bit SD video I/O for IBM-based systems and 8/10/12 bit media support
- 8- and 10-bit video I/O for SGI-based systems and 8/10/12 bit media support
- Resize and Framerate conversion tools
- Multi-resolution workflow & timeline
- User-definable cue mark colours
- User-defined 720p timecode display (30/60)²
- Source-to-Record matching (look source up from timeline)

Effects

- new Master Keyer - unique interactive keying technology
- Colour Warper™ advanced primary and secondary colour correction
- GMask advanced variable gradient rotoscoping technology
- DVE: extended bicubic deformations (3D warping)
- DVE: import of FBX 3D files from 3ds max, Maya and Softimage
- DVE: Blend modes in Soft Axis

Workflow

- Composition reformatting, for multi-standard conversion (SD/HD/film)
- New Editdesk search and undo/redo List (up to 50 levels)
- Improved search filters (search range of timecode, name, comment etc...)
- Proxy processing for fast previews
- New proxy controls, clip proxies can be defined by size, resolution or frame rate
- Media unlinking and relinking
- Film colour look-up table (LUT) tools
- Record area list view with sortable display (if clip is selected, highlights clips on the timeline)
- Multi-selection soft effect editing with animation controls
- Project based clip library with sharing tool, for instant project access between editing and effects products

I/O

- Improved editing patch panel
- 720p VTR archiving² and multi-tape VTR archiving
- Movie file import/export, RGBA file export
- Proxy only capture
- EDL: savable tape list and EDL Source Table import
- EDL: Long tape name support (up to 52 char)
- Tape auto capture and auto eject from smoke
- Support for stone Switchable Storage
- Soft Import and Publish to open file systems
- HDCAM SR RGB 4:4:4
- GPI Trigger

Audio

- New audio fade in/out
- Audio mixdown on file export
- Faster than real-time scrubbing and playback of audio on multiple tracks
- Import/export OMF audio media

smoke and smoke SD

smoke 6.5³

HD system (SMPTE 292M SDI)
Available as turnkey SGI IRIX systems only

smoke 6.5 SD³

SD system (SMPTE 259M SDI)
Available as turnkey IBM LINUX systems
Available as turnkey SGI IRIX systems

what's new in smoke 6.5

- Clip library enhancements
- New Render tools in clip library
- 3D LUT support
- Improved Channel Editor including Track Editor, Multiselection, and keyframe handling enhancements
- Photoshop PSD Import
- Soft Resize
- Soft Import and Publish to open file systems
- Improved Audio
- Support for: Discreet's rendering software **burn**, HDCAM SR RGB 4:4:4
- GPI trigger

For details, refer to the inside of the brochure

¹ Requires SGI® Tezro™ visual workstation

² Requires SGI® Octane2™ or Tezro workstation

³ **smoke 6.5** and **smoke 6.5 SD** have similar software features

To purchase or obtain product information, contact Discreet:
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Singapore: +65.6552.0553 Latin America: +1.305.267.6499
North America: toll free: +1.800.869.3504 or +1.514.393.1616
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