

Autodesk®
Flame® 2010
Extension 1

A Discreet® Systems product

with Autodesk® Flare™ 2010 Extension 1



New Features
Guide

Autodesk® Visual Effects and Finishing 2010 Extension 1

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Introduction

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- [Using the New Features Guide](#) on page 2
- [Viewing Tooltips](#) on page 2
- [Viewing the Help](#) on page 2
- [Autodesk Media and Entertainment Training](#) on page 3
- [Notation Conventions](#) on page 3
- [Contacting Customer Support](#) on page 3

About the Documentation

Autodesk® Flame® 2010 Extension 1 and Autodesk® Flare™ 2010 Extension 1 include documentation that helps you install, configure, and use your product.

For a list of all the documentation available to you, visit <http://www.autodesk.com/flame-documentation-2010extension> and <http://www.autodesk.com/flare-documentation-2010extension>.

Refer to the Release Notes for all late-breaking information.

Using the New Features Guide

This New Features Guide describes the new and updated features for this release of Flame. For a quick look at the New Features, see [What's New](#) on page 5. Some of the major features also have more information in this guide — just follow the links from the What's New chapter.

Viewing Tooltips

Your application includes tooltips that describe objects on the user interface (such as buttons and fields). The tooltips also display the hotkey for the object, if one is configured.

To view tooltips:

- ▶ Move the cursor over the object.
After a few seconds, the tooltip displays.

In the Preferences menu, you can turn on and off the display of tooltips. You can also change the amount of time your cursor must rest on an object before the tooltip displays.

Viewing the Help

Included with your application is a Help system that you can view in a Web browser. The Help is installed automatically and is accessible from anywhere within your application.

The Help is best viewed using Firefox® 2 or Internet Explorer 7.

To view the Help:

- 1 Start your application.
- 2 Click Preferences to open the Preferences menu and click Help.
You can also access the Help by clicking the Help button, which appears on the bottom-right of the Desktop.

TIP Press **Ctrl+=** to open the Help from anywhere in your application.

A browser launches displaying the Help.

TIP To view the Help without interrupting a client session, copy the *documentation/help* folder from the product DVD to another system, such as your laptop. To view the Help, open the *help/index.html* file.

Autodesk Media and Entertainment Training

There are several training options available to help you be more creative and productive with your application, including free self-paced training and instructor-led training.

For all your training options, see: http://www.autodesk.com/me_training

Notation Conventions

A number of style conventions are used throughout your documentation. These conventions and examples of their use are shown as follows.

Convention	Example
Text that you enter in a command line or shell appears in Courier bold. Press the Enter key after each command.	install rpm -qa
Variable names appear in Courier, enclosed in angle brackets.	<filename>
Feedback from the command line or shell appears in Courier.	limit coredumpsize
Directory names, filenames, URLs, and command line utilities appear in italics.	<i>/usr/discreet</i>

Contacting Customer Support

For Autodesk Media and Entertainment Customer Support, visit <http://www.autodesk.com/support>.

Customer support is also available through your Autodesk reseller. To find a reseller near you, consult the reseller look-up database at <http://www.autodesk.com/resellers>.

What's New

2

Topics in this chapter:

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- [Creative Tools](#) on page 5
- [Technical Tools](#) on page 7
- [Batch Workflow Improvements](#) on page 9
- [Floating Point Workflow](#) on page 10
- [Interoperability Workflow Improvements](#) on page 10
- [Input/Output Improvements](#) on page 13

About This Release

This release of Flame introduces many new and updated creative tools, as well as workflow improvements. See the themes below for a quick overview, and then follow the links for more detailed information.

Creative Tools

This release introduces new and improved tools to help you save time and expand your creative results.

Substance Procedural Pattern Generators

Two new Batch nodes are introduced to allow you to generate repeatable noise patterns.

- The Substance Noise node allows for the creation of animated customizable patterns, ranging from cloud-like noise to geometric patterns.
- The Substance Splatter node allows for the use of input clips as the pattern seed for creating noise patterns.

See [Substance Nodes](#) on page 15.

Using Audio Tracker Analysis to Generate Keyframes

In the Channel Editor throughout Flame, you can now analyse an audio clip, and use the results to automatically generate keyframes on any animation channel. See [Generating Keyframes Based on Audio Analysis](#) on page 21.

New 3D Particle Presets

The library of Action particle presets expands to include many new presets in existing and new categories. You can use the particle presets as is, or as a starting point to explore particles and create custom effects.

NOTE Since there are more categories of Action presets (such as 3D Text presets), the Particle Preset node is now called Presets, and the file browser is changed slightly to allow for a better workflow in choosing which type of preset to load. You can also enable a Scale to Action Resolution button, as well as other rendering settings, when loading a particle preset.

A reference guide PDF of all existing and new particle presets is available online at: <http://www.autodesk.com/flame-documentation-2010extension> or <http://www.autodesk.com/flare-documentation-2010extension>.

3D Text Presets

A new library of 3D text presets is available in Action, allowing you to create text effects more easily. See [Using 3D Text Presets](#) on page 27.

You can also view a PDF reference guide of all available 3D text presets online at: <http://www.autodesk.com/flame-documentation-2010extension> or <http://www.autodesk.com/flare-documentation-2010extension>.

3D Text Cascade Alignment

To help you create better 3D Text effects in Action, you now have an alignment option when cascading text, in relation to the master character. You can choose to align from left to right, right to left, or symmetric.

Ability to Animate Motion Blur Settings

You can now animate the Motion Blur button, as well as the Phase, Shutter, and Samples fields in the Motion Blur menu. This affects Action, Garbage Masks, and Wipe soft effects. See [Applying Motion Blur](#) on page 29.

Ability to Animate the 3D Path Banking Curve

You can now animate the Action 3D Path banking curve. New settings are added to the Banking menu to help you work with keyframes in the curve. See [Using the Banking Curve](#) on page 30.

New Minimum Blur Setting for 3D Blur

A new Edge Min Blur setting is added to the Depth menu of 3D Blur. In some instances, an out-of-focus object that appears closer to the camera (that is, in front of the focus plane) can have hard edges. In this case, increase the value in the field to add a blur to these edges.

Technical Tools

Like creative tools, technical tools are also necessary to help you get better results. This release introduces the following new and improved technical tools.

Saving Selected Action Objects

To help you quickly save and load Action setups, you are now able to save only selected objects.

See [Saving, Loading, and Importing](#) on page 33.

Gradient Clip Creation

Tools for easily creating a 2- or 4-colour gradient clip are added to the Coloured Frame command in the Processing menu, and the Coloured Frame node in Batch.

See [Creating Coloured Frames](#) on page 37.

Enhanced Pen Tablet Support

You can now use the pen tablet to jog or shuttle a clip.

- With an Intuos®4 pen tablet, use the touch ring control to jog or shuttle through a clip. Use the button in the centre of the ring to toggle between jog and shuttle.
- With an Intuos®3 pen tablet, use the the touch strip to jog or shuttle through a clip. Use the button with an indentation to toggle between jog and shuttle.

You can also use the tablet buttons as hotkeys. Use the Hotkey Editor to assign a function to each button. Access the Hotkey Editor from the Preferences menu, or by pressing **Alt+Ctrl+F8**.

New Documentation Options

The Help button on the Desktop and in the Preference menu has been redesigned to a dropdown list to give you better access to the documentation you need. For example, you can now open the Help directly to the *What's New* and *Hotkeys* sections. You also have links to online documentation and training resources.

NOTE You can always use the hotkey **Ctrl+=** to display the help from anywhere in the application.

Other Technical Improvements

Use these small improvements to help in your day-to-day use of Flame:

- When using Filter Select to search for timeline elements, you can populate segment information directly into the appropriate fields by pressing **Alt+T** and clicking a segment, and then refine your search accordingly.
- Zoom and pan values are retained when switching clips in the Player.
- When using the full-screen mode in Paint, you now have access to the timebar and zoom controls.
- The broadcast monitor now displays the primary track when using a split or blend view between tracks.

Batch Workflow Improvements

The Batch environment continues to improve with new functionality and workflow enhancements.

Schematic Connection Improvements

A number of shortcuts are introduced to help you insert and connect nodes gesturally to your Batch or Modular Keyer process tree. See [Connecting Clips and Nodes](#) on page 41.

Visually Identifying Action Media and Paint Sources

To help identify Action Media nodes and Paint source nodes in the Batch schematic, you can now select the media in the Action Media list, or the source in the Paint Sources list to automatically highlight in yellow the corresponding node and link. Conversely, selecting a Media or source node also highlights the corresponding media in the Action Media list or source in the Paint Sources list.

Floating Point Workflow

This extension release adds floating point support to more Processing and Format menu tools.

- The Separate command in the Format menu is now fully 16-bit floating point compliant.
- The Flip command in the Processing menu is now fully 16-bit floating point compliant.

Interoperability Workflow Improvements

As many new formats and codecs are introduced in the industry, it is important to create workflows that support them.

WiretapCentral

WiretapCentral has an improved RED workflow, a new Backburner Monitor, and other, minor, improvements.

Full Audio Support

WiretapCentral now exports and plays back the audio tracks of clips with audio. R3D files are an exception, playing back as normal, but without audio.

Additional WiretapCentral Export Presets

New iPod and iPhone export presets are available for export. See [Supported Export Codecs](#) on page 53.

RED Workflow Enhancements

The following RED-specific enhancements are available in WiretapCentral.

General improvements

- Under the Settings tab, a Preview panel is now located below the List View. This panel allows you to preview the RED clip to import as you edit the

Format and Color settings. You can also switch between regular (1/8th resolution preview) and full resolution. See [Preview Panel](#) on page 54.

- The Resize type/filter controls are now activated when Resize or Crop are enabled. This ensures that proper resize filtering is applied when cropping. There is also a new Debayer setting: 1/16th resolution. See [Format Tab](#) on page 55.

Crop

- There is a new Crop function available. It is located in the Settings, in the Format tab. The Preview panel displays a crop box according to the crop settings. See [Format Tab](#) on page 55.

RSX support

- You can now load a file's RSX look, as created in RedAlert, if it resides in the same folder as the R3D file. The Camera look is still loaded by default. See [Color Tab](#) on page 58.

Colour Space

- PDLog 685 and PDLog 985 colour spaces for film-like workflows are now available.

Improved Media Selection

- You can use the Mark In and Mark Out buttons to define In and Out points. See [Preview Panel](#) on page 54.
- It is now possible to manually relink an event in an XML or EDL to an R3D file if Source Search fails. See [Importing FCP XML](#) on page 59 and [Importing the EDL](#) on page 62.

Backburner Web Monitor in WiretapCentral

The Backburner Web Monitor available from WiretapCentral is now comparable in features as the stand-alone Backburner Web Monitor. The following features are now available in the Backburner Monitor from WiretapCentral.

The top of the Web Monitor has been updated to include basic Backburner server information. A Refresh button is also available to refresh the list of Backburner managers.

Job Information

The Jobs list includes the ability to filter by job name. And the Job Details panel has undergone the following changes.

- **Modify server or server group assignments** In the Job Details panel, there is now a new Server Assignment tab that allows you to remove or add individual servers from a job, or to select a server group to assign to a job.
- **View and edit advanced job information and parameters** Some applications submit Backburner jobs with extended instructions for the processing engine. The Job Details panel now includes this information on the Advanced Info tab. You can view and modify these extended instructions.
- The job name and type are now more visible, having been relocated to the top of the Job Details panel.

Server Information

You can now delete servers directly from the Servers list. The list now includes:

- A performance index for each server
- A description of the server

There is a new Server Details panel that you can use to manage and edit the settings of each server. The new Server Details panel allows you to view extended information about each server. You can also use it to edit the server description and weekly scheduling.

Server Groups

In previous versions, the Server Groups panel would only show a list of existing server groups. The new Server Groups tab allows you to create, modify, and delete server groups.

Manager Information

Use the new Manager tab to view and edit manager-specific functions, including logging and notification, job assignment, failures, and job handling.

Other Improvements

Use these small improvements to help in your day-to-day use of WiretapCentral:

- In WiretapCentral, selecting an option in the Import menu opens a new browser window. This allows you to launch several imports at the same time.
- In the Import Image menu of Flame, selecting RED or Multi-Channel Open EXR, and then clicking WiretapCentral, opens the corresponding WiretapCentral Import window in the web browser. WiretapCentral also set as a destination the project and the workstation from which the import is launched.
- The Tree view in WiretapCentral has been streamlined. It is easier to read, and a stopwatch appears every time WiretapCentral is processing something, such as when reading a directory to display its contents.
- A new Play button is available to the Input list of the Export panel. Clicking Play displays a player with the clip details.

Input/Output Improvements

Getting your clips in and out of the application continues to improve with support for new formats.

DNxHD Support in MXF

The application now supports the DNxHD codec in an MXF wrapper. See [Supported DNxHD MXF File Codecs](#) on page 65.

New XDCAM Codecs

The application now supports the Sony™ XDCAM EX and XDCAM HD422 codecs. See [Supported XDCAM File Codecs](#) on page 66.

Support for HDCAM SR Double-Speed and Stereoscopic Tapes

It is now possible to input material from double-speed and stereoscopic tapes read by an HDCAM SR. See [HDCAM SR Double-Speed and Stereo Tape Capture](#) on page 67

Topics in this chapter:

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- [Generating Keyframes Based on Audio Analysis](#) on page 21
- [Using 3D Text Presets](#) on page 27
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- [Using the Banking Curve](#) on page 30

Substance Nodes

New for this release: These new types of Batch nodes (Substance Noise and Substance Splatter) use presets to allow you to create highly-stylized noise pattern effects.

The Substance nodes are procedural noise pattern generators, allowing you to create highly-customizable, repeatable patterns such as cells or concentric shapes to use in your Batch process tree.

- **Substance Noise node** Use this node to generate a noise pattern based on a chosen preset to use as an input for other nodes.
- **Substance Splatter node** This node accepts front and matte inputs as the seed that you feed through a chosen preset pattern.

To access the Substance nodes:

- 1 Drag the Substance Noise node or Substance Splatter node to the Batch schematic.

The file browser appears, pointing to the default location of the presets:

- `usr/discreet/<product home>/substance/presets/NOISE` or
- `usr/discreet/<product home>/substance/presets/SPLATTER`

TIP Switch to Proxies view to see a visual representation of the presets.

- 2 Select a preset.

NOTE The Splatter presets include normal and additive blend versions.

The preset is automatically loaded into Batch.

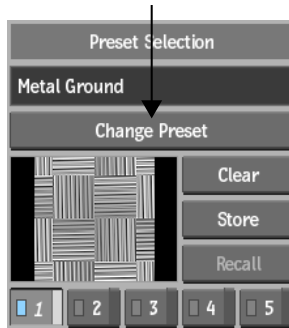
- 3 If you are working with a Substance Splatter node, attach front and matte input clips.
- 4 Double-click the Substance node in the schematic to access the menu. Some of the settings in the menu are dependant on the preset you loaded.
- 5 Change the menu settings, as needed. Enable Regen to update the image as fields are updated. See [Setting Substance Parameters and Behaviours](#) on page 17.
- 6 Optional: Enable Force Tile to ensure that your resulting image tiling is repeatable. In this case, the Crop Output and Zoom options are greyed out.



NOTE If your rendering network is set up with GPU-enabled Burn nodes, you can burn Substance batch clips. See your *Autodesk Burn Installation and User Guide* for installation and configuration information.

To change a Substance preset:

- 1 Select the Substance Noise or Substance Splatter node in the schematic.
- 2 Click Change Preset.

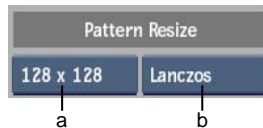


The file browser appears, and you can select a different preset to load.

NOTE All menu parameters are reset when a new preset is loaded.

Resizing a Substance Splatter Pattern

Use the Pattern Resize settings to change the input size and filtering type of the Splatter pattern.



- (a) Pattern Resize box
- (b) Filter box

Pattern Resize box Select the input size of the Splatter pattern.

Filter box Select a resize filtering option.

Setting Substance Parameters and Behaviours

Once you have loaded your preset, you can use the Parameters and Behaviours settings in the Substance menu to change and animate the pattern.

Some of the settings in the Parameters tab vary depending on the chosen preset, while other settings, such as Zoom, Random Seed, and Disorder are present in every Substance preset. You can get a quick description of each setting by viewing its tooltip.

NOTE If Force Tile is enabled, the Zoom field is greyed out.

Parameters		Behaviours							
Noise Specific		Pattern		Levels		2D Transform		General	
Offset 1	0.00	Scale X	100.00	Gain	1.00	Pan X	0.00	Random Seed	1
Offset 2	0.00	Scale Y	100.00	Output Min	0.00	Pan Y	0.00	Disorder	0.00
		Roundness	0.10	Output Max	1.00	Zoom	100.00		
				Luma Var	0.00				
				Luma Seed	1				

Example of Noise parameters

Parameters		Behaviours							
Noise Specific		Pattern		Levels		2D Transform		General	
Spokes	4	Scale X	100.00	Gain	1.00	Pan X	0.00	Random Seed	1
Spread	4	Scale Y	100.00	Output Min	0.00	Pan Y	0.00	Disorder	0.00
		Size Var	0.00	Output Max	1.00	Zoom	100.00	Disorder Angle	0.00
		Rotation	0.00					Disorder Random	
		Rotation Var	0.00						

Example of Splatter parameters

Use the settings in the Behaviours tab to apply preset motion to your pattern, and to help you quickly animate your patterns. For example, you can choose a Flow behaviour and animate your pattern to resemble a flag waving.

Parameters		Behaviours	
Wave Distort		Direction	0.00
Overall Speed	100.00%	Warp Intensity	0.50
Time Offset	0	Wavelength	0.50

The behaviours are divided into a number of categories, each with their own settings.

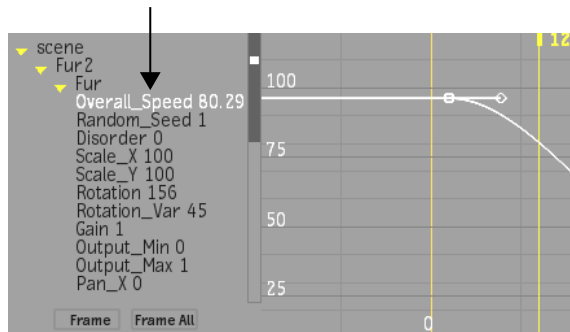
- **Organic Pulse** Slow pulsing evolution of width and height of the pattern.
- **Wind** Directional force that spins the pattern with intensity.
- **Flow** Directional force that displaces the pattern in different direction.
- **Oscillation** Evolution of size and luminance of the pattern.
- **Wave Distort** Directional warping effect that deforms the pattern with different wavelength warps.

You can adjust the playback rate and timing of your chosen behaviour animation by using the following settings (available for all behaviours):

Overall Speed field Displays the rate at which the behaviour animation plays.

Time Offset field Displays the start point of the behaviour animation. With a value of 0, the animation starts at frame 1. With a value of 100, the animation begins as if it has been generating for 99 frames. You cannot animate the Time Offset field.

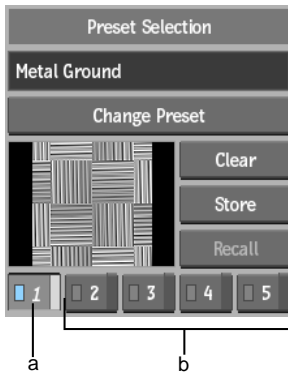
You can also adjust the Overall Speed in the Channel Editor.



Storing Substance Preset Memories

The Memory section of the Noise or Splatter menu allows you to store up to five variations of the current preset. This is useful if you want to compare a certain preset type with different settings and animations.

Use the following preset memory buttons to clear, store, or recall menu parameters. A blue LED indicates that a preset memory is stored in the slot.



(a) Preset stored in this preset memory slot (b) No presets stored in these slots

Clear button Clears the selected preset memory.

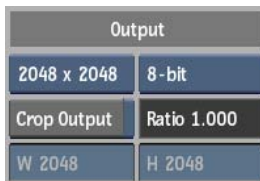
Store button Stores the menu parameters in the selected preset memory.

Recall button Recalls the last stored parameters for the selected preset memory.

Proxy image window Displays a proxy of the stored preset memory.

Setting Substance Output Options

Use the settings in the Output section to set the size and resolution of clips that are output from the Substance node.



Texture Resolution box Select the resolution of the pattern.

Frame Depth box Select the frame depth of the clip.

Crop Output button Enable to crop the output of the pattern by the amounts displayed in the Width and Height fields.

NOTE The crop options are greyed out if the Force Tile button is enabled.

Ratio field Displays the aspect ratio of the pattern clip. The ratio is calculated by W:H to output a square pixel ratio.

Crop Width field Displays the width of the cropped output.

Crop Height field Displays the height of the cropped output.

Generating Keyframes Based on Audio Analysis

New for this release: In the Channel Editor, you can use an audio clip to automatically generate keyframes on any video or audio channel based on the analysis of the audio.

To map keyframes based on audio analysis:

- 1 In the Channel Editor, select the Audio tab.



NOTE The Audio menu has a number of submenus with various settings. You may not need to use every setting to analyse your audio clip. See the sections after this procedure for an explanation of each setting.

- 2 From the Media Source box, select whether you want to analyse the current audio clip (Clip) or import an audio clip (File).

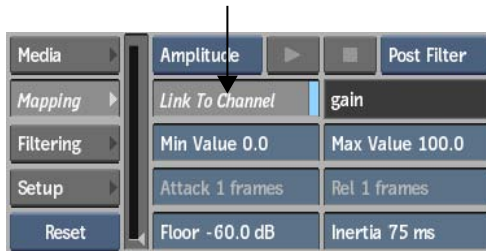


If there is more than one audio clip associated with your choice (for example, Front, Back, or Matte), you can choose which one to use in the

Name box. If only one audio clip is available, the name of the clip appears in a locked field.

If you select File, click Import to open the Import Audio browser, and select an audio file to import.

- 3 In the Channel hierarchy, select the channel or channels you want to link the audio to.
- 4 Use the settings in the Media submenu to prepare the audio track you want to use. See [Media Settings](#) on page 23.
- 5 From the Mapping submenu, enable Link To Channel.



The letter 'a' appears next to the channel in the Channel hierarchy, indicating that this channel is linked to the audio.



- 6 Use the settings in the Mapping submenu to determine how the audio track is mapped to the selected channel. Keyframes are adjusted automatically as changes are made to the settings. See [Mapping Settings](#) on page 24.
- 7 Use the settings in the Filtering submenu to filter the exact frequencies you want to analyse. Keyframes are adjusted automatically as changes are made to the settings. See [Filtering Settings](#) on page 25.

- 8 Disable Link To Channel or exit the module when you are satisfied with the analysis. The generated keyframes are automatically baked to the animation curve.

You can use different audio tracking settings on different channels. Disable Link To Channel and select a different channel in the hierarchy and restart the mapping process.

NOTE If you want to be able to tweak the settings, you can save the analysis settings in an audio tracker setup.

Media Settings

The following settings are available in the Media submenu.



(a) Media Source box

Media Source box Select whether to analyse the current audio clip (audio attached to the front, back, or matte clips, for example), or the imported audio file.

Play button Plays the audio media. This button is present in the Media, Mapping, and Filtering submenus.

Stop button Stops the audio playback. This button is present in the Media, Mapping, and Filtering submenus.

Import button Opens the import audio browser to load a file.

Clip Name box If multiple audio clips are available, select which clip to use as source media. If only one audio clip is available, the name of the clip appears in a locked field.

W+ button Displays the selected media's waveforms in the Channel Editor.

W- button Hides the waveform.

Track box Select which audio track to use as source media.

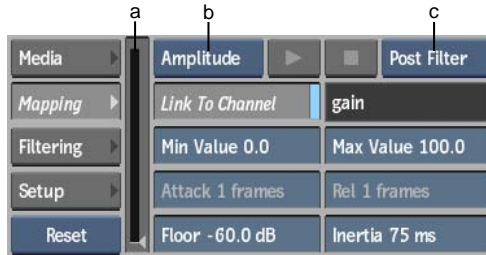
Slip field Displays the number of frames by which to slip the media.

Handles field Displays the number of handles (frames) to analyse before and after the current shot duration. For example, with a shot of 100 frames, if you enter 30 in this field, the total number of frames becomes 160 (30 frames before and 30 frames after the original 100 frames).

Reset box Select Reset to reset the Media submenu settings only. Select Reset All to reset all of the Audio tab settings.

Mapping Settings

The following settings are available in the Mapping submenu.



(a) Audio Level Indicator (b) Tracking Mode box (c) Listening Mode box

Tracking Mode box Select the tracking mode. In Amplitude tracking mode, a keyframe is generated at each frame, following the envelope of the audio signal. In Transient tracking mode, a keyframe is generated for each audio transient (sudden rise in amplitude), provided that the signal rises above the specified threshold.

Listening Mode box Select Pre Filter (the audio as it was imported) or Post Filter (the audio with any changes made) monitoring when playing back the audio media. This setting does not affect the analysis.

Link To Channel button Enable to map the tracked audio to the selected animation channel. An 'a' appears in the Channel hierarchy next to the name of the linked channel. Multiple channels can be selected simultaneously.

Channel Name field This locked field displays the name of the selected channel being linked to the tracked audio. Multiple Channels is displayed if more than one channel is selected.

Min Value field Displays the minimum value at which keyframes can be set in the linked channel.

Max Value field Displays the maximum value at which keyframes can be set in the linked channel.

NOTE The minimum value can be higher than the maximum value to get an inverse mapping of the tracking mode in the animation channel.

Attack field Displays the number of frames needed for the channel to reach the Max Value before a transient. Available only in Transient tracking mode.

Release field Displays the number of frames needed for the channel to reach the Min Value after a transient. Available only in Transient tracking mode.

Threshold field (not shown) Displays the value at which a keyframe is generated each time the signal rises above it. Available only in Transient tracking mode.

TIP Start with a high threshold, and lower it until all required peaks are detected.

Floor field Displays the minimum level of the audio media to be considered for the analysis. This setting is typically used to remove analysis noise between audio transients. Available only in Amplitude tracking mode.

Inertia field Displays the rate at which the signal decreases after a transient. In Transient tracking mode, the Release field can be increased to avoid the generation of several consecutive keyframes when the transient is not clearly defined in the input signal. Conversely, if the Release field is set to 0 ms, each transient rising above the threshold generates a keyframe, even if each occurs within a few milliseconds of another.

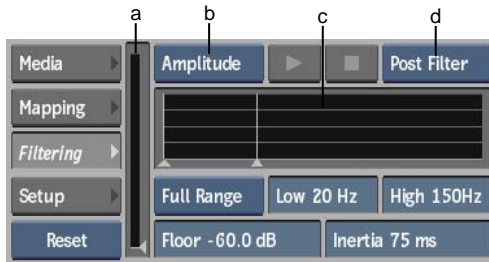
Audio Level Indicator A visual representation of the audio level and the current Threshold or Floor value.

Reset box Select Reset to reset the Mapping submenu settings only. Select Reset All to reset all of the Audio tab settings.

NOTE Some of the settings in the Mapping submenu are repeated in the Filtering submenu so that you do not have to switch tabs to change the settings. The same settings are reflected in both submenus.

Filtering Settings

The following settings are available in the Filtering submenu.



(a) Audio Level Indicator (b) Tracking Mode box (c) Frequency Graph (d) Listening Mode box

Tracking Mode box Select the tracking mode. In Amplitude tracking mode, a keyframe is generated at each frame, following the envelope of the audio signal. In Transient tracking mode, a keyframe is generated for each audio transient (sudden rise in amplitude), provided that the signal rises above the specified threshold.

Listening Mode box Select Pre Filter (the audio as it was imported) or Post Filter (the audio with any changes made) monitoring when playing back the audio media. This setting does not affect the analysis.

Frequency Graph A visual frequency representation of the audio signal being tracked. The audio display is always Pre Filter.

Frequency Range Preset box Select a frequency range preset to determine the cutoff frequencies for Low and High filters.

Low field Displays the lowest frequency of the input signal used in the analysis (also represented by a slider under the frequency graph). Use the slider or field to adjust the low value.

High field Displays the highest frequency of the input signal used in the analysis (also represented by a slider under the frequency graph). Use the slider or field to adjust the high value.

Threshold field (not shown) Displays the value at which a keyframe is generated each time the signal rises above it. Available only in Transient tracking mode.

TIP Start with a high threshold, and lower it until all required peaks are detected.

Floor field Displays the minimum level of the audio media to be considered for the analysis. This setting is typically used to remove analysis noise between audio transients. Available only in Amplitude tracking mode.

Inertia field Displays the rate at which the signal decreases after a transient. In Transient tracking mode, the Release field can be increased to avoid the generation of several consecutive keyframes when the transient is not clearly defined in the input signal. Conversely, if the Release field is set to 0 ms, each transient rising above the threshold generates a keyframe, even if each occurs within a few milliseconds of another.

Audio Level Indicator A visual representation of the audio level and the current Threshold or Floor value. In Transients tracking mode, the arrow turns red to indicate a peak.

Reset box Select Reset to reset the Filtering submenu settings only. Select Reset All to reset all of the Audio tab settings.

NOTE Some of the settings in the Filtering submenu are repeated in the Mapping submenu so that you do not have to switch tabs to change the settings. The same settings are reflected in both submenus.

Setup Settings

The following settings are available in the Setup submenu.



Load button Click to load a saved audio mapping setup. The name of the loaded setup is displayed in the Name field.

Save button Click to save an audio mapping setup.

Using 3D Text Presets

New for this release: To help take some of the complexity out of creating 3d text effects, a new library of 3d text presets is available from within Action. You can use the presets as is, or as a starting point to explore 3d text and create custom effects.

A number of 3d text presets are included in Action, such as rotating or fading text to add to your scene. These presets can help you add complex text effects with just a few clicks.

To add a 3d text preset:

- 1 Do one of the following:
 - Drag the Presets node from the node bin and place it in the schematic.
 - Drag the Presets node from the node bin and place it where you want it in Result view.
 - Double-click the Presets node. You do not need to be in Schematic view to add a node in this manner. The file browser opens.
- 2 From the Preset Type box, select 3D Text.



The 3D Text Preset file browser appears, pointing to the default location of the presets: *usr/discreet/<product home>/3d_text_presets*.

- 3 Optional: Enable Scale to Action Resolution to load the preset in the current Action resolution.
- 4 Optional: Select which rendering settings to enable or disable in the preset (Z-Buffer, Shading, Polygon Resolution, and Colour Clamping).

NOTE These settings are enabled by default, and by disabling any of them, you may not see the intended results in the preset.

- 5 Navigate through the subfolders and select the 3d text preset you want to load. Hold **Ctrl** and click to select multiple presets.

TIP Switch to Proxies view to see a visual representation of the presets.

- 6 Click Load.

The 3d text preset is then appended to your Action scene. In the 3D Text menu, you can change the default text string of the preset.

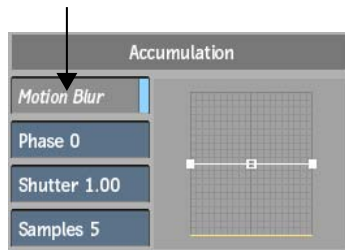
For a listing and description of all available 3d text presets, see the *3D Text Presets Reference Guide*, available at <http://www.autodesk.com/flame-documentation-2010extension> or <http://www.autodesk.com/flare-documentation-2010extension>.

Applying Motion Blur

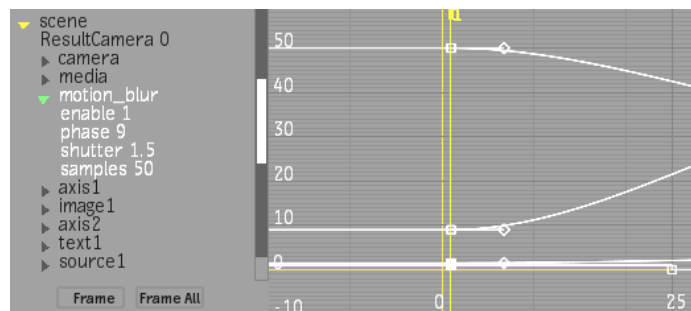
New for this release: You are now able to add keyframes and animate the Motion Blur button, as well as the Phase, Shutter, and Samples fields. The following example displays Action motion blur settings, but the Garbage Mask and Wipe motion blur settings are similar.

Use the Motion Blur tool to simulate the blur created by fast-moving objects. Motion Blur is used with both the normal and physical cameras. You can apply motion blur globally (to the entire scene) and then exclude objects in the scene from its effect.

To use motion blur, enable the Motion Blur button in the Action Setup menu and specify motion blur settings.



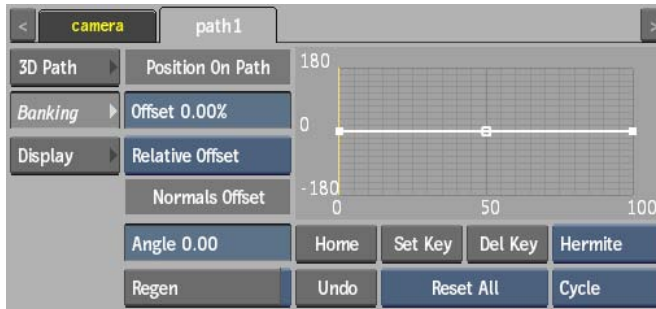
You can animate the Motion blur button, as well as the Phase, Shutter, and Samples fields. They can be found in the Channel Editor under the *motion_blur* folder.



Using the Banking Curve

New for this release: New settings and functionality in the Action 3D Path Banking tab allow you to interact better with keyframes in the banking curve.

When Align to Path or Look At is selected in the Alignment option box, the Banking tab becomes available. Banking uses the normals of the path to orient objects attached to it. Use the banking curve and settings to control the torsion effect of the object as it travels along the 3D path.



Banking Curve Adds twists and torsion to the normals of the 3D path. As with the Channel Editor, you can add keyframes to the banking curve using Add mode, move keyframes with Move mode, and modify the curve's shape using tangent handles. The horizontal axis represents the length of the path, and the vertical axis displays the orientation, expressed in degrees.

Normals Offset Angle field Displays the angle of rotation of all normals, applied to the entire banking curve.

NOTE Changes made to the banking curve and Angle field are cumulative.

Regen button Enable to dynamically refresh the image as changes are made to the banking curve. This button is enabled by default.

Home button Resets the banking curve viewer to show the whole curve.

Undo button Undoes banking curve operations.

Set Key button Sets the current values for the banking curve in the current frame (when Auto Key is disabled).

Del Key button Deletes the selected banking curve keyframes.

Reset Selection box Select whether to reset all of the banking settings (Reset All) or just the banking curve (Reset Key).

Interpolation box Select the default interpolation type for the banking curve.

Extrapolation box Select the default extrapolation type for the banking curve.

Topics in this chapter:

- [Saving, Loading, and Importing](#) on page 33
- [Creating Coloured Frames](#) on page 37

Saving, Loading, and Importing

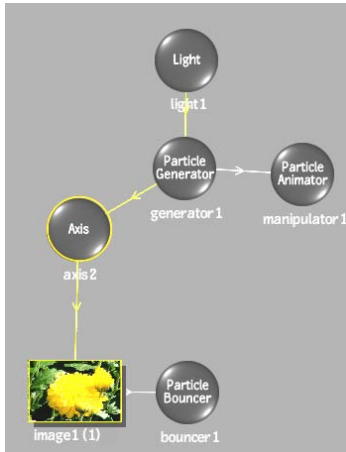
New for this release: You can now save selected nodes in the Action schematic, and to help keep your Media list clean when using the Add Nodes+Media load option, media from the setup file fills empty slots in the Media list. See the following procedures for saving and loading Action setups.

You can save, load, and delete Action setups, and import Photoshop files into Action.

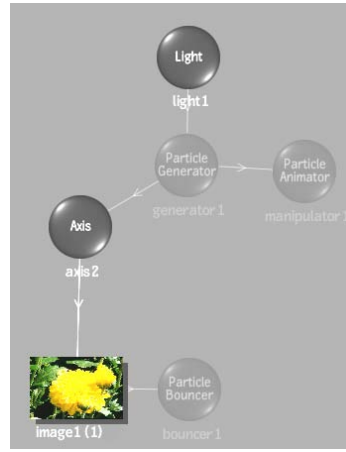
When loading a DVE setup from a previous version of Fire or Smoke, Action translates the elements to create a comparable scene. For example, in a saved DVE setup, if the front axis of a layer is not modified, it is not created by default in Action.

When importing a setup that contains non-supported objects (such as particles and deformations in Smoke), these objects are displayed as greyed out nodes in the schematic, and greyed out menus in the Object menu. These greyed out objects are read-only objects that can be viewed (in the image window and the Object menu), but not modified or linked to or from. In Channels view, you

can view the parent channel for the non-supported object, and in Tracks view, you can slide or stretch the parent channel. If you modify the setup and resave it, you can then open it in the application that supports the objects, and modify all objects.



Schematic of Inferno, Flame, or Flint setup



Schematic of same setup opened in Smoke

To save an Action setup:

- 1 Click Save.



The file browser and Save menu appear.

- 2 From the Save Action box, select the format for saving the setup.

Select:	To save:
All	References to all clips in the Media list.
Selected Objects	The selected objects, their media and media settings. Any expressions on channels of selected nodes are baked to the channels before saving, and any Duplicate or Reentry links to or from non-selected nodes are removed before saving. If a node is selected that is duplicated from a non-selected node, though, the animation channels are copied from the node before saving.

Select:	To save:
Raw	<p>Selected animation channels as a user-readable ASCII file. In the file, each line corresponds to one frame, and each column consists of one frame number and the value of the animation curve at that frame. All saved information starts at frame one.</p> <p>A file with the extension <i>.raw</i> is saved in the <i>.../action</i> directory by default. At least one channel must be selected in the Channel Editor.</p>
Text	<p>The current text settings, including font, character size, kerning, italics, depth, beveling curve, and text string properties, all of which can be loaded in another Action session.</p> <p>A file with the extension <i>.atext</i> is saved in the <i>.../action</i> directory by default. A 3D text node must be selected in the schematic.</p>
Preferences	<p>The current Action settings as user preferences.</p> <p>A file with the extension <i>.pref</i> is saved in the <i>/usr/discreet/user/<product_name>/<user_name>/action/pref</i> directory.</p>
Defaults	<p>The current Action preferences as Action's new default settings.</p> <p>To restore Action's factory default settings, select Factory Defaults in the Load menu.</p>
Multitrack	<p>A multilayer setup for all Action media and save a multitrack clip in the current library.</p>

- 3 Type a name for the setup file and click Enter.

The name appears in the Name field.

By default, the setup is saved in the */usr/discreet/project/<project_name>/action* directory. Using the file browser, you can save setups to the directory of your choice.

- 4 Once you have saved an Action setup, you can quickly resave it by clicking Save again.

TIP Click Revert to revert to the last saved setup. All changes made since the previous Save operation are undone.

To load a setup in Action:

- 1 Click Load.



The file browser and Load menu appear.

NOTE When you access the file browser through Load, you also have the option of deleting existing setups.

2 In the Load box, select the format for loading the setup.

Select:	To:
All	Load the clips in the selected setup into their corresponding media. The media in the Media list is replaced with the loaded clips. If a clip cannot be found on the Desktop, Action searches for it in the clip library and loads it automatically to Action and to the Desktop. If the clip still cannot be found, Action displays the missing clip name in red in the Media list. A surface that uses a missing clip appears as an outline in the image area and is shown in red in Schematic view.
No Clips	Load a setup without its clips. The current media in the Media list remains the same.
Add Nodes+Media	Add nodes and media from the setup file. This option appends the schematic from the setup file to the current schematic, and wherever possible, media from the setup file fills empty slots in the Media list. Remaining media from the setup file is appended to the end of the Media list. Enable Load Cameras if you want to include the cameras saved with the setup.
Add Nodes	Add only the nodes from the setup file. This option appends the schematic from the setup file to the current schematic. Not supported when loading a DVE setup from previous releases of Smoke or Fire. Enable Load Cameras if you want to include the cameras saved with the setup.
Multitrack	Load a multitrack setup. Loads front, matte, back, and background video tracks from an entire clip. Replaces all media.
Raw	Load raw animation data to a selected channel in the Channel Editor.
Text	Load the text setup files. The text settings are loaded into Action's Text menu.

Select:	To:
Preferences	Load a file containing Action preferences.
Factory Defaults	Load original Action default settings. Selecting this option prompts you to confirm that you want to restore factory defaults and returns you to the Action menu.

- 3 Click Context to filter the file types listed in the browser.
Only the files types that correspond to the selected load option are listed in the browser.
- 4 Select the setup you want to load.

NOTE Sample Action setups are provided in the *~/examples/action* directory.

- 5 Click Load.
The selected setup is loaded into Action.

To delete an Action setup:

- 1 Click Load.
The file browser and Load menu appear.
- 2 Enable Delete.
- 3 In the file browser, select the setup you want to remove.
- 4 Click Confirm.

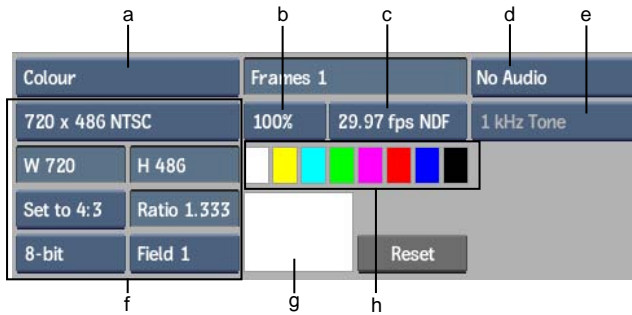
Creating Coloured Frames

New for this release: Create two or four colour gradient patterns with the Coloured Frame command or the Coloured Frame node in Batch.

Use the Coloured Frame command to generate a clip that contains one or more identical frames of a solid colour, a gradient of two or four colours, or SMPTE or PAL colour bars at 75% or 100% luminance.

To create coloured frames:

- 1 Click Coloured Frame in the Processing menu.
The Coloured Frame menu appears.



(a) Frame Mode box (b) Luminance box (c) Frame Code Mode box (d) Track box (e) Frequency box (f) Resolution settings (g) Current colour pot (h) Colour palettes

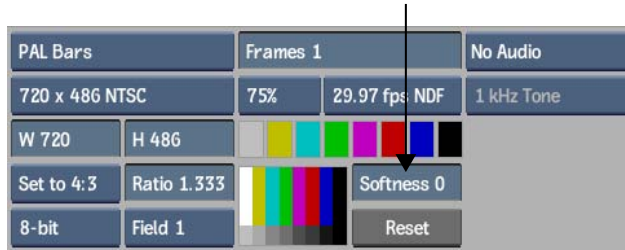
2 Select the type of frame to generate from the Frame Mode box.

Select:	To generate frames of:
Colour	A solid colour.
Noise	Video static noise.
Colour Noise	Colour video static noise.
SMPTE Bars	SMPTE standard colour bars.
PAL Bars	PAL standard colour bars.
Gradient	A two- or four- colour gradient.

- Specify the number of frames that you want to generate in the Frame number field.
- From the Luminance box, select 75% or 100% luminance (not available for Gradient frames).
- From the Frame Code Mode box, select the framerate and drop frame mode for your colour source clip.
- To generate audio with the clip, select the number of audio tracks from the Track box and then select a frequency from the Frequency box.

NOTE Selecting Silence in the Frequency box creates audio tracks with a flat waveform.

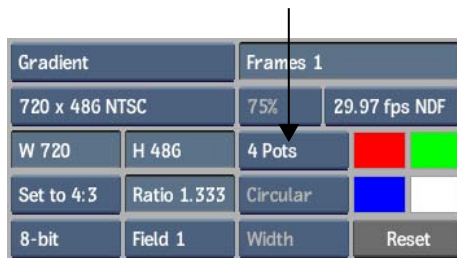
- 7 If the Frame Mode is set to Colour, set the colour to be used for the frames in the Current Colour pot. Perform one of the following:
 - Click one of the colour pots to transfer that colour into the Current Colour pot.
 - Click the Current Colour pot to create the current colour.
- 8 If the Source Type is set to SMPTE or PAL Bars, enter a value in the Softness field to display the softness between the colour bars.



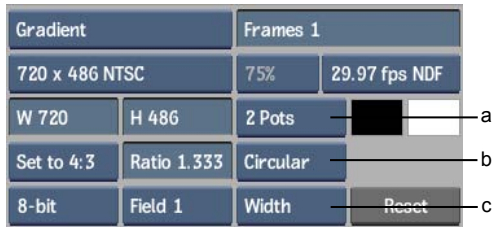
- 9 If the Source Type is set to Gradient, use the Gradient tools to create a two- or four- colour gradient. See the following procedure.
- 10 Optional: Change the resolution. By default, the result clip has the same resolution as the project default resolution. To specify an alternative resolution, use the Resolution settings.
- 11 Select the destination reel.
The generated clip appears on the destination reel.

To create a gradient clip:

- 1 From the Source Type box, select Gradient.
- 2 From the Gradient Mode box, select whether you want to create a two-colour or four-colour gradient.



- 3 If you selected 4 Pots in the Gradient Mode box, use the four colour pots to select the colours representing the four corners of the image.
- 4 If you selected 2 Pots in the Gradient Mode box, use the two colour pots to select the gradient colours and then set a pattern of Horizontal, Vertical, or Circular in the Gradient Pattern box.



(a) Gradient Mode box (b) Gradient Pattern box (c) Circular Mode box

- 5 If you selected Circular in the Gradient Pattern box, you can set how the gradient is drawn in the Circular Mode box. The gradient is drawn from the centre of the image using the maximum width, height, or diagonal length, depending on your choice.
- 6 Select the destination reel for the generated gradient clip.

Batch Workflow Improvements

5

Topics in this chapter:

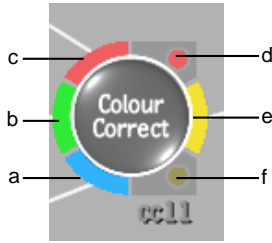
- [Connecting Clips and Nodes](#) on page 41

Connecting Clips and Nodes

New for this release: A number of new shortcuts and hotkeys, including advanced autolinking, help you add and connect clips quickly in the schematic.

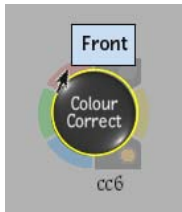
As you add nodes, you connect them to the process tree by linking the result from one node and using it as a source (front, matte, or back) for the next node in the process tree. You can also connect by linking backward from the source of one node to the output of another (to reuse a node's output). Exceptions are the BFX Output, Output, and Export nodes: you cannot link from their result.

To connect nodes, you use the coloured tabs on the node's left side; these tabs are called *source tabs*. The colours of the source tabs correspond with the cursor colours when selecting clips from the Desktop reels. The yellow tab on the node's right side is called the *Result tab*. You use the Result tab of a node to connect its result to the front, back, or matte tab of another node.



(a) Matte tab (b) Back tab (c) Front tab (d) Warning tab (e) Result tab (f) Cache tab

If auto display of tooltips is enabled in the Preferences menu, hover over a tab to see the name of the tab. If you have disabled the auto display of tooltips, press and hold **Alt+Ctrl+spacebar** and hover over the tab.



Node source tabs are described in the following table.

Tab	Colour	Description
Front	Red	Connects a front clip to a node.
Back	Green	Connects a back clip to a node.
Matte	Blue	Connects a matte clip to a node.
Audio	Aqua	Connects a clip with audio to an Output node.
Result	Yellow	Connects the result of a node to other nodes.
Output Matte	Blue	Connects the output matte of a node to other nodes.
Cache	Grey and yellow circle	Enables, disables, or sets cache as read only for the selected node.
Warning	Red circle	Warns that clip input to this node is unconnected or is missing media, or clips parented to this node do not share the same resolution or a compatible bit-depth. A message

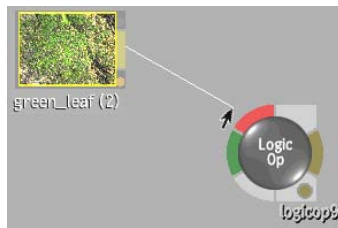
Tab	Colour	Description
		also appears in the message bar (press Alt+E and mouse over the node to redisplay the message).

The available source tabs depend on the node. If the node accepts a front, back, and matte clip, all coloured source tabs are available. If the node only accepts a front clip, the red source tab is available and the other source tabs are grey. The Result tab is always available, except on the BFX Output, Output, and Export nodes. When a source tab or Result tab is not connected to a clip or to another node, the coloured tabs are dimmed.

There are several ways of connecting clips or nodes together. You can connect them manually or automatically. You can also quickly connect several nodes and clips together using the tap-tap feature.

To connect a clip to a node:

- Click the clip and drag the cursor to a source tab on a node. Alternatively, select Parent from the Edit Mode box and drag the cursor to a source tab.



Dragging from a clip to the front tab of a Logic Op



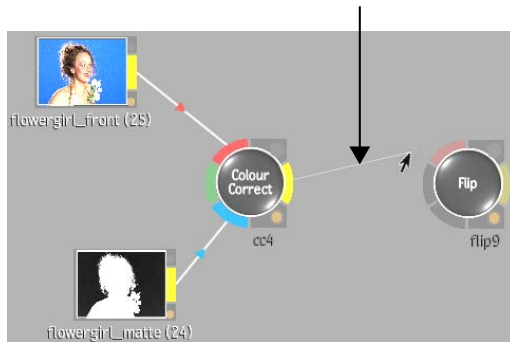
(a) Edit Mode box

An arrowed line is drawn from the clip to the source tab. The colour of the line corresponds to the colour of the source tab to which the clip is connected.

To connect nodes manually:

- Click the Result tab of a node whose result you want to use and drag the cursor to one of the source tabs of the next node in the process tree.

An arrowed line is drawn from the node to the source tab. For example, click the Result tab of the Colour Correct node and drag the cursor to the front tab of the Flip node to flip the result of the colour-corrected clip.



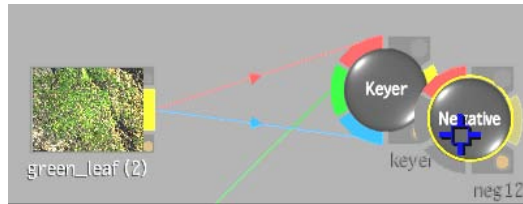
To connect nodes automatically:

- 1 Use the Autolink feature by pressing **Shift** and dragging a node to another node so their tabs touch.

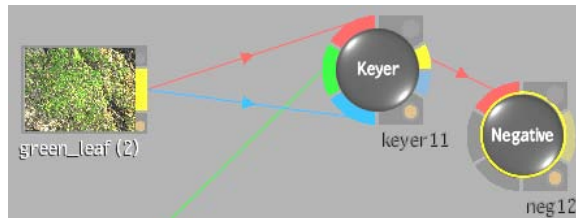
The nodes are connected.

NOTE Using Autolink to connect nodes will not connect an audio input to an Export or Output node.

Action: Press and hold **Shift** while dragging the Negative node to the Keyer node



Result: The Keyer output is the front for the Negative node

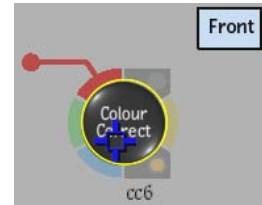


- 2 To help distinguish between the various source tabs, use the Advanced Autolink feature by pressing **Alt** repeatedly while still holding **Shift** to extend a similarly coloured arm from each source tab (starting with the topmost source tab, and cycling counter-clockwise with each press of **Alt**). The name of the tab is also displayed above the node. You can then touch the extended arm to the tab you want to connect to.

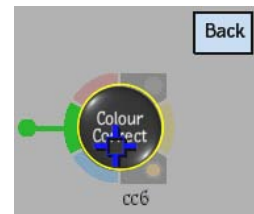
For example, while pressing and holding **Shift** and dragging a Colour Correct node, pressing **Alt** once displays an extended red arm from the Front tab. Pressing **Alt** again displays an extended green arm from the

Back tab; and pressing **Alt** a third time displays an extended blue arm from the Matte tab.

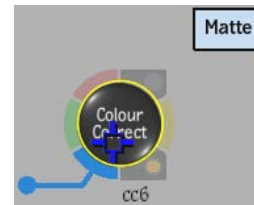
Hold **Shift** and press **Alt** to extend the Front tab.



While still holding **Shift**, press **Alt** again to extend the Back tab.

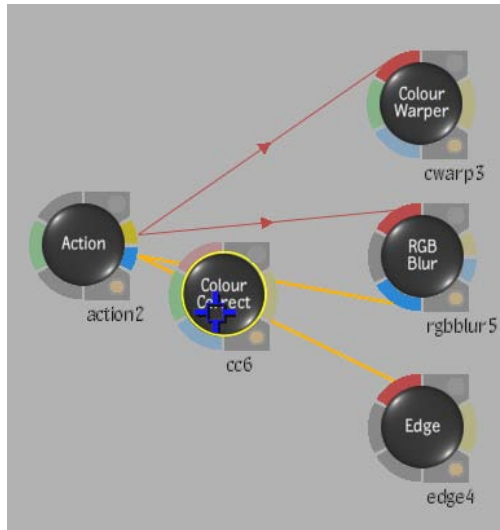


While still holding **Shift**, press **Alt** a third time to extend the Matte tab.



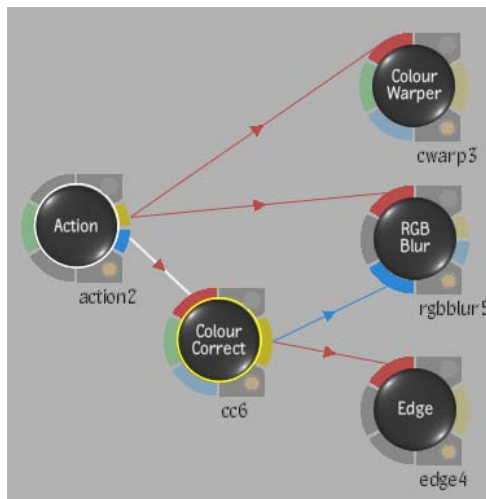
To use Advanced Autolink and retain output links:

- 1 Drag a node while pressing and holding **Shift**.
- 2 Optional: Press **Alt** until the desired coloured arm is extended, then release **Alt**.
- 3 While still holding **Shift**, navigate to the output tabs of the desired node that you want to connect to. Press **Ctrl** and hover over the output links from the node's tabs to highlight them in orange.



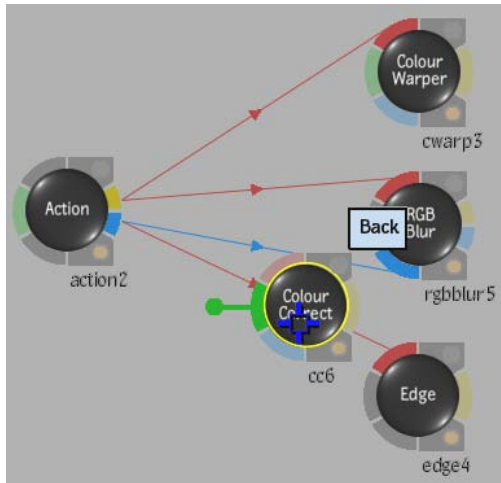
- 4 When the desired output links are highlighted (signifying that they will be altered by the operation), release **Ctrl** and **Shift**.

The links are disconnected from the original node, reconnected to the main output of the inserted node, and a new link appears between the original output and the chosen input of the inserted node.

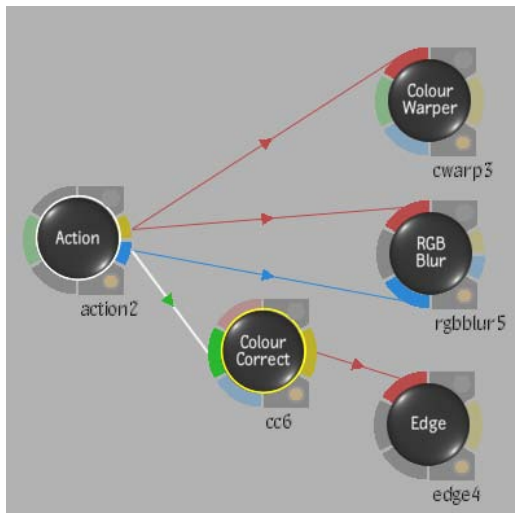


To use **Advanced Autolink** to insert a node between existing connected nodes:

- 1 Drag a node while pressing and holding **Shift**.
- 2 Press **Alt** until the desired coloured arm is extended, then release **Alt**.
- 3 While still holding **Shift**, navigate to the link between two connected nodes.

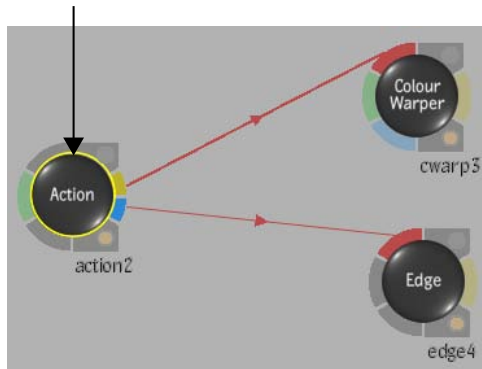


- 4 Touch the extended arm to the link, and release **Shift**.
The node is inserted, while retaining the input and output connections.

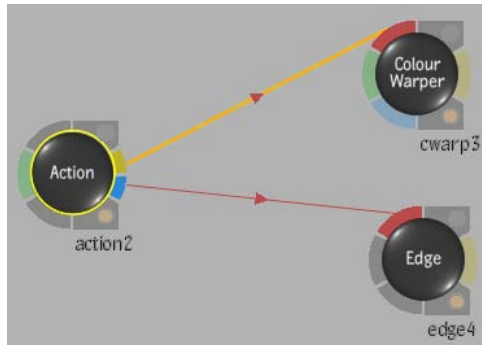


To add a node from the bin between existing connected nodes:

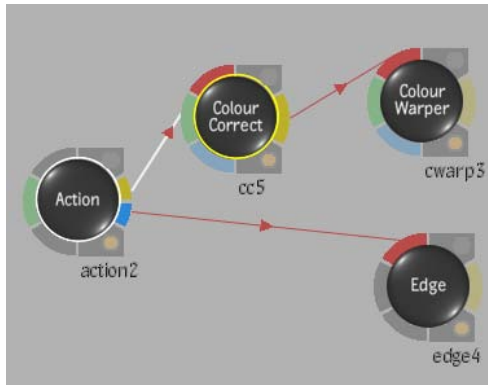
- 1 Select the node in the schematic that has one or more output links.



- 2 Hover over the node in the node bin that you want to add.
- 3 Press and hold **Shift**, then press **Alt** repeatedly to cycle through the output links. Each press of **Alt** highlights an output link in orange.



- 4 Release **Alt** when the connection that you want to retain is highlighted.
- 5 While still holding **Shift**, double-click the node in the bin. The node is added to the schematic, and is linked automatically between the desired nodes.



If the selected node is connected to multiple inputs, the insertion is done on all inputs. Once connected, the link colour returns to its default colour.

To create a node connection using tap-tap linking:

- 1 Click the socket of the first node or clip you want to connect.
- 2 Click the socket of the node you want to connect the first node to.
The nodes are connected.

NOTE If the first node you click is an Output node, you can add as many subsequent input socket connections as you like. To finish selecting, click anywhere in the schematic work area.

To simultaneously break a connection and add a new input:

- Connect the new clip or node's Result tab to the source tab of a node that is already connected to a different source.
The source tab's original link is disconnected and replaced with a connection to the new Result tab.

To disconnect nodes or clips:

- 1 Drag the cursor across the connecting line between a clip and a node or between two nodes.
The arrowed line is cut and the source tab is dimmed.
- 2 You can cut multiple connections in a single stroke by clicking and dragging over several connecting lines in the schematic.

TIP To quickly disconnect a node, press **Ctrl+Alt** and click the node to disconnect.

Interoperability Workflow Improvements

6

Topics in this chapter:

- [Supported Export Codecs](#) on page 53
- [Preview Panel](#) on page 54
- [Format Tab](#) on page 55
- [Color Tab](#) on page 58
- [Importing FCP XML](#) on page 59
- [Importing the EDL](#) on page 62

Supported Export Codecs

WiretapCentral can export clips in the following formats. New for this release: settings for iPhone™ and iPod® exports.

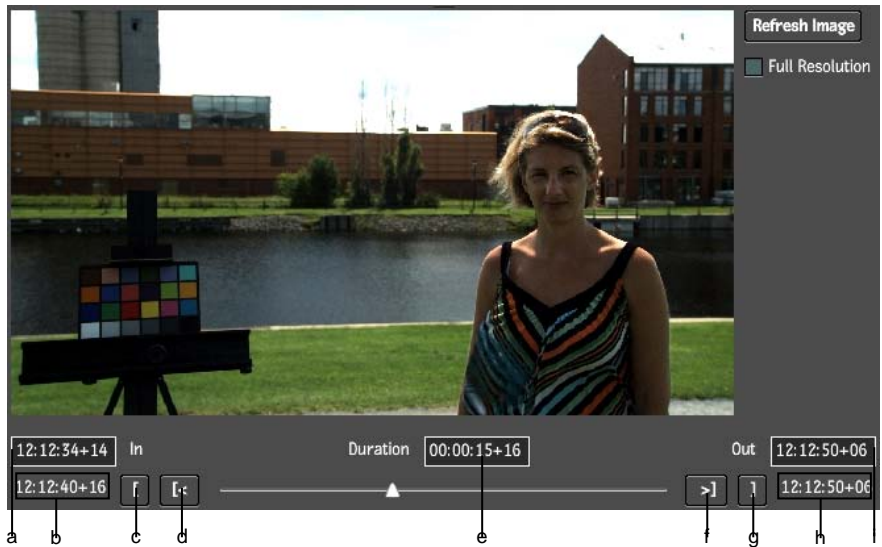
Codec	Comments
H.264	Main, High. Use Main when you want to minimize the use of computing resources. This is the setting used by QuickTime Pro. Use High for broadcast or disc storage at high-definition, such as for HD DVD or Blu-Ray.
iPod Touch/iPhone	H.264 format for iPhone and iPod Touch®

Codec	Comments
iPod 5G	H.264 format for video-capable iPod
MPEG-4	
MPEG-2	
MPEG-1	
FLV	Flash Video
QT Animation	QuickTime file using the Animation codec
DV (PAL or NTSC)	Raw PAL or NTSC DV stream
MS MPEG-4	Microsoft MPEG-4 version 2

Preview Panel

The new Preview panel allows you to preview the effect of the settings being edited on the selected clip. You can also use the Preview panel to set In and Out markers. These markers define the actual clip to import. They are disabled when importing clips using an FCP XML or an EDL.

The image displayed in the Preview panel is a 1/8th resolution preview. Enable Full Resolution to view the clip at full resolution.



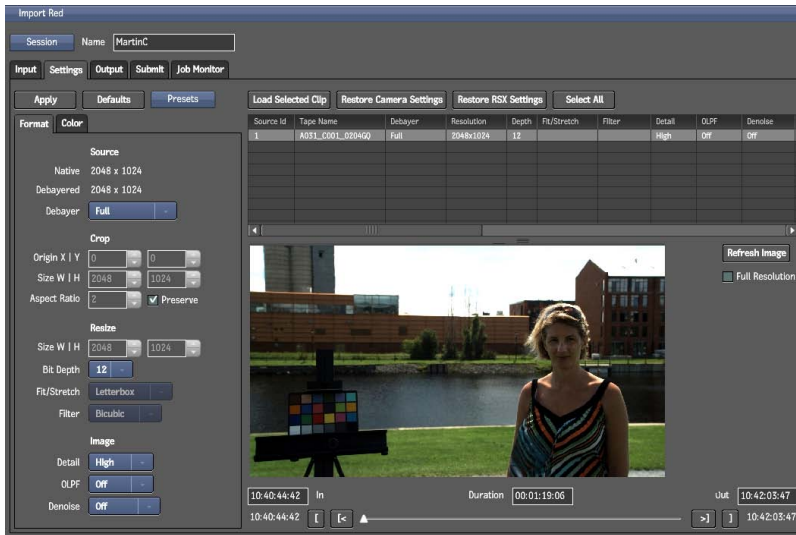
(a) In timecode (b) Start timecode (c) Mark In button (d) Go To In button (e) In-Out duration field (f) Mark Out button (g) Go To Out button (h) End timecode (i) Out timecode

Format Tab

New for this release: A new Debayer setting is available (1/16th of resolution). Also, new Crop settings allow you to crop the image.

Use the Format Settings options to set:

- Resize
- Crop settings
- Debayer quality
- Detail level
- Optical Low Pass Filter options
- Denoise level



Debayer Select the level of quality required from the debayering algorithm. Higher resolutions take more time to process.

Crop Enter the desired Crop settings. Setting crop values displays a matching crop box on the clip displayed in the Preview panel.

Size W | H (Resize) Enter the desired resize settings. A resize setting that is not directly proportional to the size of the original media takes longer to process. Resize settings are automatically applied when Debayer is set to something else than Full.

Bit Depth RED media is 16 bits, but must be converted down to 12, 10 or 8 bits.

Fit/Stretch To use a different aspect ratio during resize, select a fit method option to be applied to the exported clip.

Select: **To:**

Centre/Crop Fit the source image, centred, over the destination frame. If the source is larger than the destination, it is cropped. If the source is smaller than the destination, it is surrounded by a black border.

Select:	To:
Crop Edges	Fit one edge of the source into the destination frame without stretching or squashing the frame. Excess parts of the source frame after resizing are cropped. If the source, after the one edge is resized, is wider than the destination, its overhanging left and right edges are cropped. If the source is taller than the destination, the upper and lower edges are cropped.
Fill	Fit the source, width, and height, into the destination frame. If the source and destination frames do not have the same aspect ratio, the image can become distorted.
Letterbox	Fit the source to the destination frame without squashing or stretching it, and without cropping the source. If the source is wider than the destination, black bars fill the top and bottom of the destination frame. If the source is narrower than the destination, black bars fill the right and left sides of the frame. In all cases, the entire source frame is contained within the destination frame.

Filter Select the filter option to determine the quality of the interpolated resize result.

Select:	To get:
Impulse	Quick, low-quality results.
Triangle	Moderate results with little processing overhead.
Mitchell	Best results when resizing a clip to a higher resolution.
Bicubic	Very good results for resizing soft-looking images. Use to sharpen the image.
Quadratic	Good results for resizing simple images with straight edges. Similar to Gaussian but with more blurring. Use to soften the image.
Gaussian	Excellent results when resizing a clip with no patterns and a lot of straight edges to a lower resolution. Useful for softening some detail.
Shannon	Excellent results when resizing a clip to a lower resolution. Very similar to Lanczos, but results are a little softer.

Select:	To get:
Lanczos	Best results when resizing a clip containing a variety of patterns and elements to a lower resolution. It is the most complex with the longest processing time.

Detail Select the level of detail extraction required.

OLPF Select the level of Optical Low Pass Filter compensation to use. OLPF is a type of sharpening used to compensate for the optical anti-aliasing filter, which can induce softening of the image during recording.

Denoise Select the level of noise reduction applied to the debayered clip.

Color Tab

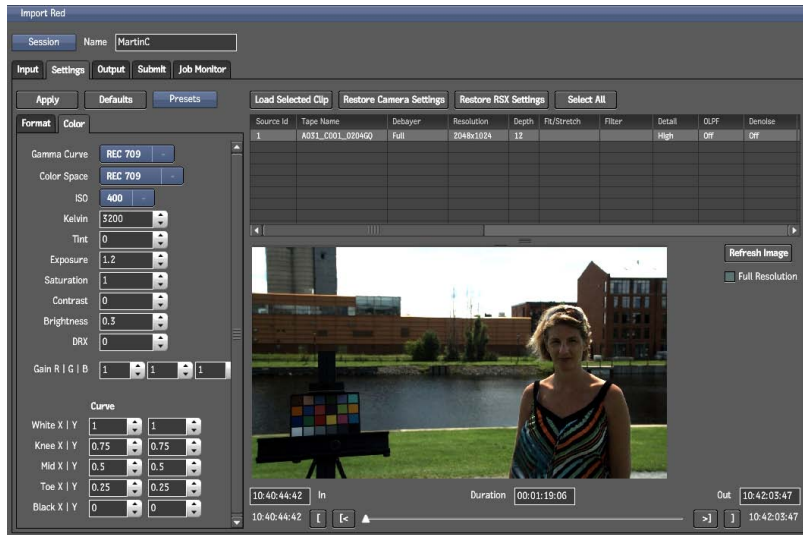
New for this release: RedAlert!™ RSX settings are available, as well as colour spaces PDLog 685 and PDLog 985.

WiretapCentral supports most color options available in RED applications, such as RED Alert!.

The Color Tab displays the settings for the clip metadata, as set in the camera. Alter these settings carefully, since overriding some values may produce unexpected results.

Load the RSX look created in RED Alert! by clicking Restore RSX Settings. The RSX file of a clip must reside in the same folder as the R3D file of that clip; this is the default behavior in RED Alert!.

NOTE The Color tab also contains settings for RGB Gain, as well as Color curve settings. We recommend that you do not change the default settings unless you have prior experience with color management.



Gamma Curve Displays the value of the output gamma curve that is applied to the clips.

Color Space Displays the value of the native color space of the images, as set in the camera.

ISO Displays the value of the linear gain operation. Red images are always shot at 320 ISO.

Kelvin Displays the perceived color temperature of the image.

Exposure Displays the exposure increments, which are equivalent to f-stops.

DRX Displays the setting for Dynamix Range Extension, which sets how much pixel data is copied from non-saturated channels into saturated channels.

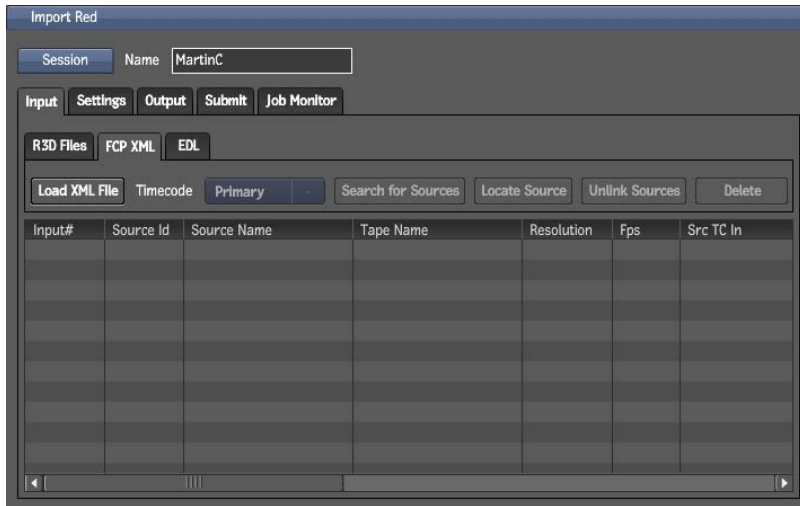
Importing FCP XML

New for this release: If Search for Sources cannot locate a RED file, you can use Locate Source to manually assign a RED file to an event.

RED media can be imported as FCP XML pointing to R3D files.

- 1 In WiretapCentral, from the Import menu, select Red.
This starts a new import job. The Import Red window appears.
- 2 Enter a session name. Special characters are prohibited.

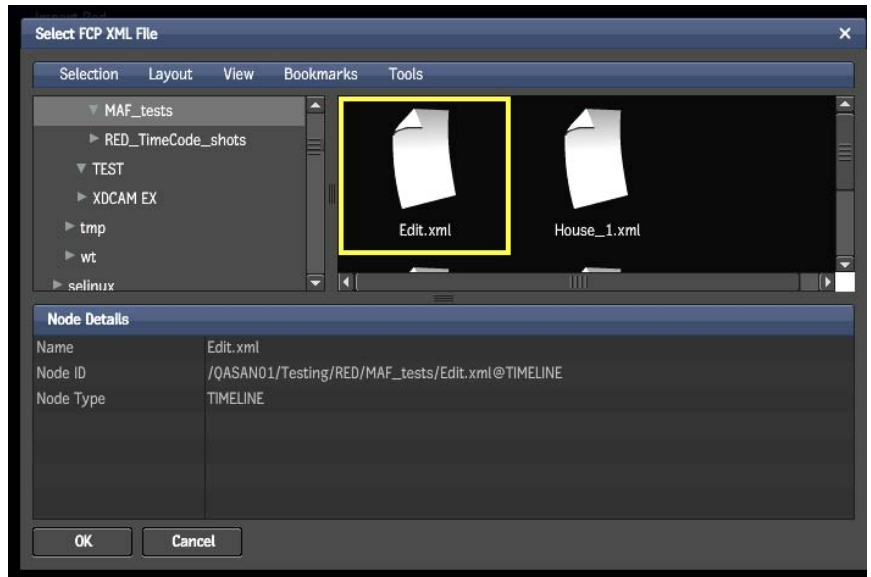
The session name identifies your import job when saving or loading a session, and when outputting the job. It is also the job name in Backburner Manager.



- 3 Optional: Save the session. At any time, you can save a session. From the Session button, select Save or Save As. Use the Session button to load a previously saved Import Red session or delete one.

WARNING Sessions are saved as cookies. Deleting your browser cookies deletes your saved sessions. On Firefox, using the Clear Recent History option deletes the browser cookies.

- 4 Ensure that the Input tab is selected.
- 5 From the Input tab, select the FCP XML tab.
- 6 From the FCP XML tab, click Load XML File.
A browser appears.
- 7 Navigate to the folder containing the FCP XML file to be imported, and select the file.



- 8 Click OK.
The events from the selected XML file appear in the Input list.
- 9 Select the Timecode to use.
- 10 Click Search for Sources to have WiretapCentral search the contents of a folder for the sources. A browser appears.
- 11 Navigate to the folder containing the R3D files. The files themselves are not displayed.
- 12 Select the location of the RED media files and click OK. WiretapCentral searches the folder and all subfolders for each clip referenced in the XML. In the list, the Status of each event with a located source changes from Missing to Found.
- 13 Optional: For each event with the Missing status:
 - 1 Select the event for which to locate an R3D file.
 - 2 Click Locate Source. A browser appears.
 - 3 Navigate to the R3D file, and select it.
 - 4 Click OK to link the R3D file to the event.
In the list, the Status of the event changes from Missing to Found.

NOTE To verify the timecode used: if the Src TC columns matches either Edgecode or TOD TC (time of day) columns, the clip will be imported using the matching timecode. If it matches neither, the clip will be imported using the primary timecode.

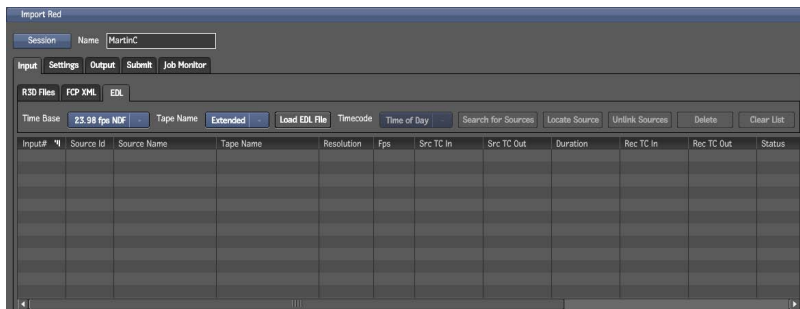
- 14 When you are ready to proceed, click the Settings tab.

Importing the EDL

New for this release: If Search for Sources cannot locate an RED file, you can use Locate Source to manually assign an RED file to an event.

RED media can be imported as generic EDLs containing R3D files. The workflow goes as follows.

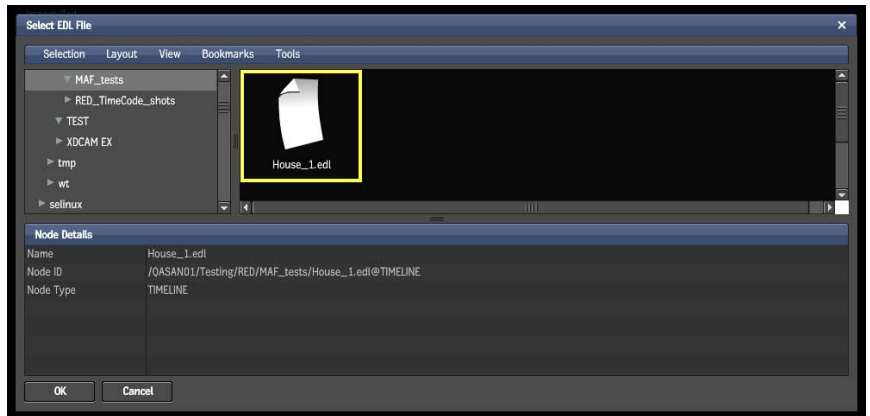
- 1 In WiretapCentral, from the Import menu, select Red.
This will start a new import job. The Import Red window appears.
- 2 Enter a session name. Special characters are prohibited.
The session name identifies your import job when saving or loading a session, and when outputting the job. It is also the job name in Backburner Manager.



- 3 Optional: Save the session. At any time, you can save a session. From the Session button, select Save or Save As. Use the Session button to load a previously saved Import Red session or delete one.

WARNING Sessions are saved as cookies. Deleting your browser cookies deletes your saved sessions. On Firefox, using the Clear Recent History option deletes the browser cookies.

- 4 Ensure that the Input tab is selected.
- 5 From the Input tab, select the EDL tab.
- 6 Select the Time Base for your EDL.
You must manually define the timeline's time base before importing the EDL as the EDL does not this information.
- 7 Select how Tape Name is written in the EDL.
If there is a tape name conversion, and the original tape name is written below each event, WiretapCentral shows the correct tape name. In the end you must have both the Source Name and Tape Name fields containing the same data.
- 8 Click Load EDL File. A browser appears.
- 9 Navigate to the folder containing the EDL file to be imported, and select the file.



- 10 Click OK.
The events from the selected EDL file appear in the Input list.
- 11 Select the Timecode to use.
- 12 Click Search for Sources to have WiretapCentral search the contents of a folder for the sources. A browser appears.
- 13 Navigate to the folder containing the R3D files. The files themselves are not displayed.
- 14 Select the location of the RED media files and click OK. WiretapCentral searches the folder and all subfolders for each clip referenced in the EDL.

In the list, the Status of each event with a located source changes from Missing to Found.

15 Optional: For each event with the Missing status:

- 1** Select the event for which to locate an R3D file.
- 2** Click Locate Source. A browser appears.
- 3** Navigate to the R3D file, and select it.
- 4** Click OK to link the R3D file to the event.

In the list, the Status of the event changes from Missing to Found.

NOTE To verify the timecode used: if the Src TC columns matches either Edgecode or TOD TC (time of day) columns, the clip will be imported using the matching timecode. If it matches neither, the clip will be imported using the primary timecode.

16 When you are ready to proceed, click the Settings tab.

Input/Output Improvements

7

Topics in this chapter:

- [Supported DNxHD MXF File Codecs](#) on page 65
- [Supported XDCAM File Codecs](#) on page 66
- [HDCAM SR Double-Speed and Stereo Tape Capture](#) on page 67

Supported DNxHD MXF File Codecs

New for this release: Flame supports the import of Avid® DNxHD MXF files encoded with any of the following codecs.

DNxHD CODEC	CODEC Flag	Comment
DNxHD 220X 1080p	DNxHD 220X	10-bit
DNxHD 145 1080p	DNxHD 145	8-bit
DNxHD 220 1080p	DNxHD 220	8-bit
DNxHD 36 1080p	DNxHD 36	8-bit

DNxHD CODEC	CODEC Flag	Comment
DNxHD 220X 1080i	DNxHD 220X	10-bit
DNxHD 145 1080i	DNxHD 145	8-bit
DNxHD 220 1080i	DNxHD 220	8-bit
DNxHD 220X 720p	DNxHD 220X	10-bit
DNxHD 220 720p	DNxHD 220	8-bit
DNxHD 145 720p	DNxHD 145	8-bit
DNxHD 145 1080i	DNxHD 145	Thin Raster. Resolution of 1440x1080 (NTSC) or 1280x1080 (PAL) at 8 bits.

Supported XDCAM File Codecs

Flame supports import of Sony™ XDCAM files encoded with any of the following codecs. New codecs for this release: XDCAM EX and XDCAM HD422.

XDCAM CODEC	CODEC Flag	File Type	Comment
MPEG-2 IMX 30	IMX 30	MXF	XDCAM
MPEG-2 IMX 40	IMX 40	MXF	XDCAM
MPEG-2 IMX 50	IMX 50	MXF	XDCAM
MPEG-2 long-GOP	XDCAM HD	MXF	XDCAM HD (4:2:0)
MPEG-2 long-GOP	XDCAM HD422	MXF	XDCAM HD (4:2:2)
MPEG-2 long-GOP	XDCAM EX	MP4	XDCAM EX

HDCAM SR Double-Speed and Stereo Tape Capture

Using an HDCAM SR, you can capture material from specially formatted double-speed and stereoscopic tapes.

Double-speed tapes allows you to capture material twice as fast. Stereoscopic tapes essentially stores in an interlaced timing two progressive clips; a 60i (50i) “clip” contains two 30p(25p) clips.

This feature does have the following limitations:

- To use this feature, you must use specially formatted tapes. If you insert a regular tape in the HDCAM SR and try to capture it as double-speed or stereoscopic material, the capture fails.
- Audio monitoring is not available during capture.
- When capturing stereo tapes, only audio channels 1 through 8 are available.

To capture material recorded at double-speed:

- 1 Ensure that the HDCAM SR is connected to the AJA card using a dual-link.
- 2 Set the HDCAM SR VTR to DBL 422.
- 3 From the Device Name box, select the HDCAM SR VTR.
- 4 From the Tape Type box, select 2x-DOUBLE.



In the Input Clip menu, the clip is displayed with a strong yellow bias. This is normal; the captured clip will not have this yellow bias.

- 5 Capture the clip.

To capture material recorded on stereoscopic tapes:

- 1 Ensure that the HDCAM SR is connected to the AJA card using a dual-link.
- 2 Set the HDCAM SR VTR to 2X 422.
- 3 From the Device Name box, select the HDCAM SR VTR.

- 4 From the Tape Type box, select 2x-STEREO.



In the Input Clip menu, the clip is displayed with a strong yellow bias. This is normal; the captured clip will not have this yellow bias.

- 5 Capture the clip.

The stereoscopic material is captured as two clips and named according to the Clip Name field. But to differentiate the clips, one has the A suffix, and the other has the B suffix.