Autodesk®
Lustre® 2011
A Discreet® systems product

New Features Guide

Autodesk®

Autodesk® Lustre® 2011

Trademarks

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Contents

What's New

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About This Release

The release of Autodesk® Lustre® 2011 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.

Configuration Files

The following are new parameters added to the *init.config* file.

Parameter	Data type	Default	Function
<Locations>			
<GlobalGradeBinHome>	String		Defines the location of the global Grade bin.
<LutHome>	String	[LUSTRE_HOME]/lut	Defines the location of the LUTs.
<PresetsHome>	String	[LUSTRE_HOME]/presets	Defines the location of the presets.
<PluginsHome>	String	[LUSTRE_HOME]/plugins	Defines the location of the plugins.
<TemplatesHome>	String	[LUSTRE_HOME]/templates	Defines the location of the templates.

Parameter	Data type	Default	Function
<MediaBrowserHideFolders>			
<HideFolder>	String	degrain_cache, original, matte, marry_grade, and 128x96	Hides the degrain cache, original, matte, marry grade, and 128x96 folders from the file browser. **NOTE** You can hide any additional folder by adding the folder name to the list.
<Wiretap>			
<PALImageAsepectRatio>	Float	1.3333333333333	Applies the correct aspect ratio to PAL resolution footage rendered to the Wiretap server, but not imported from the Wiretap server.
<PathTranslationTable>	String	0.0.0.0	Allows you to map hostnames to IP addresses, as well as to define path translation rules. See "Defining a Path Translation Table" in the *Lustre 2011 Release Notes* for more details.
<NTSCImageAspectRatio>	Float	1.3333333333333	Applies the correct aspect ration to NTSC resolution footage rendered to the Wiretap server, but not imported from the Wiretap server.
<AVIO>			

Parameter	Data type	Default	Function
<VtrTCTD>	Integer	10	Timecode delay when you are writing to telecine tape with an HDCAM SR.
<PenTablet>			
<TabletDevice>	string name, integer left, integer right, integer top, integer bottom	left="7", right="7", top="10", bottom="15"	TabletDevice specifies parameters for each pointer device. The "name" attribute corresponds to the name of the device as found in the X.org configuration file, usually "wacom", "eraser" or "cursor". For each device, the "left", "right", "top" and "bottom" attributes specify the device margins, as a percentage of the tablet width or height. **NOTE** This keyword is only available for Windows® workstations.
<Miscellaneous>			
<DPXHeaderOffsetCheck>	State	On	When this keyword is enabled, Lustre reads the DPX / Cineon® file header of each frame in a sequence. This is useful when using DPX / Cineon files that have a different media offset within the same sequence of files.

Parameter	Data type	Default	Function
			When disabled, Lustre reads only the first frame header of a sequence. **WARNING** Turning this keyword on can alter playback performance.

Project and User Management

New options have been added to the project and user configuration settings.

User Configuration

You can delete the context file associated with a user profile by holding the **Shift** key and clicking the Delete button in the User group. (You must confirm the deletion.)

Calibration Settings

When you are working with an OpenEXR file, the file needs to be converted from a 16-bit float to a 16-bit integer. Within the Calibration settings of the project configurations, there is now the Float Conversion LUT panel which allows you to convert your OpenEXR file to a 16-bit integer Lustre internal format.

Rendering Settings

In the Marry Grade panel of the Rendering menu, the options of the Marry Grade Format option box have been changed.

Select:	To:
Based on Wedge	Save marry grade files and attribute an identifier based on the wedge pair to each filename.

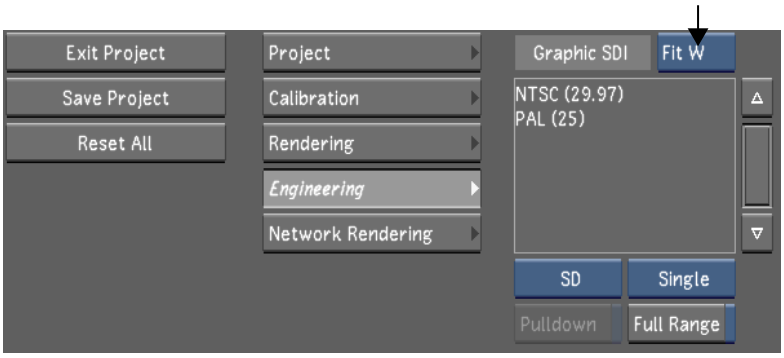
Select:	To:
Based on UID	Save marry grade files and attribute a unique identifier (UID) to each filename.

Many enhancements affect marry grade files. See Marry Grade Support on page 15.

Engineering Settings

The Graphic SDI Display option box has two new options.

Select:	To:
Fit W	Fit the image to the width of the monitor at the SDI out.
Fit H	Fit the image to the height of the monitor at the SDI out.



Display & Interface Settings

When you enable the Update Storyboard button in the Display panel, your Storyboard thumbnails will automatically be updated whenever you apply a change to your shot.

LTC Chase Option on the AJA BOB

Previously, the LTC Chase option in the Audio menu was only available for the DVS BOB. Now you are able to chase an external audio device if you are using an AJA BOB. Since the AJA BOB does not have a TC plugin, you will

need to use one of the audio lines. See Playback Using the LTC Chase Option on page 21.

Browsing for Footage

The following are the enhancements made when you are browsing for footage on Lustre.

Wiretap Gateway

The Wiretap Gateway server makes it possible to ingest complex media formats with ease. The following general improvement have been made:

- The timecode range now displays the correct information when browsing clips through the Wiretap Gateway.
- RDC folders containing as such. Instead, the RED® media contained within them is displayed.
- The current version of the Wiretap Gateway is now visible within the file browser.

OpenEXR Media

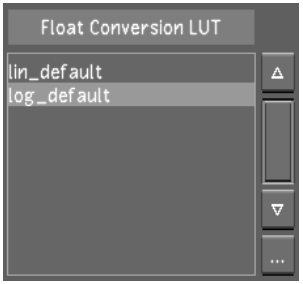
OpenEXR media can now be imported using the Wiretap Gateway. Lustre supports the following OpenEXR formats:

- OpenEXR, 16-bit float (.exr), including compressed OpenEXR files (ZIP, RLE, PIZ, PXR24, B44, and B44A).

  NOTE The playback rate of compressed files varies, depending on the compression scheme and the number of Wiretap Gateway slaves defined in the *wiretapgateway.cfg* file.

- OpenEXR is supported on import only. You cannot render to this file format.
- Only RGB OpenEXR files can be imported and not RGBA.
- You must convert the OpenEXR, 16-bit float data to the 16-bit integer Lustre internal format. This is done using the built-in Float Conversion

LUT option, found in the Calibration settings of the project configuration settings.



ProRes

The QuickTime® ProRes 422 and ProRes 444 codecs are now supported, for ingest.

NOTE The ProRes codecs are supported on Mac® OS only.

RED Media

The following improvements have been made to Lustre for RED media:

- The RED camera firmware version is now visible when you are browsing RED media using the file browser.
- Audio is now supported. Make sure the Include Audio option is enabled when you import the RED footage. Only the audio for a single associated image file can be imported or loaded at a time per grade.

R3D SDK 3.0 Support

Wiretap Gateway leverages the version 3.0 of the R3D SDK, enabling the following new transcoding options:

- New ISO / FLUT / Shadow / Colour Space and Gamma Curve
- A new option to choose the R3D SDK version used when importing REDCODE RAW media (SDK 2.x or 3.x)

Support for the RED ROCKET Board

The Wiretap Gateway can leverage a RED ROCKET™ board installed on a Mac workstation. This can improve the speed of decoding and debayering R3D files.

The RED ROCKET board can be installed on a 32-bit Mac OS X system running the Wiretap Gateway server, connected to the Lustre workstations by a 10-GigE network.

Wiretap Gateway systems equipped with a RED ROCKET board are identified in the Lustre file browser.

NOTE If you have multiple creative applications on a Mac equipped with a RED ROCKET board, only one application will be able to use the card at a time.

File Browser

The file browser user interface has been updated so the layout now resembles the Shot bin. See Accessing the File Browser on page 25. Aside from the new user interface, you can now accomplish the following within the file browser:

- You can create and delete folders.
- You can delete all the files within a folder.
- You can hold down the **Ctrl** key and click the Delete button to delete selected file folders. (You must confirm the deletions.)
- The version number of the Wiretap server and Wiretap Gateway is now visible within the file browser.
- You can filter out folders by using the keyword in the *init.config* file. Once the keywords have been determined, you can enable the Filter button in the file browser to hide those folders.
- When you are in Details or Proxies view, clicking on the name field of a thumbnail now only selects the thumbnail and no longer picks it up. Clicking on the thumbnail with the cursor picks up the shot.
- When you are in List view, click in the Shot Place column to drag and drop shots to the Shot bin or Storyboard. Clicking in any other column will only select the shot.

Shot Bin

A new feature of the Shot bin is that it is now possible to drag and drop files from one Shot bin folder to another. This allows you to assemble an EDL with media you have dragged and dropped into a specific folder.

Import File Browser

The option to copy EDL, audio and LUT files outside of Lustre is now complemented by a browser within Lustre to browse to and import a copy of an EDL, audio, or LUT file to the appropriate location. The files visible in the browser are dependent on the type of file selected for import.

See Importing an EDL, ALE, or Cutlist File on page 31, Importing a LUT File on page 33and Importing an Audio File on page 35.

Enhanced Grade Bin

The Grade bin feature is updated. See Using Grade Bins on page 39 and Using the Expanded Grade Bin on page 48. The enhancements are as follows:

- Storage containers with stereoscopic content contain grading data for the Left Eye and Right Eye.
- In a stereoscopic project, the Player in the Grade view displays the grade for the assigned eye.
- You can now drag grading data from one storage container and drop it into another.
- A new type of Grade bin stores marry grade files. Marry grade behaviour has been updated in Lustre 2011. See Marry Grade Support on page 15.
- The location of the New Folder button has moved from the expanded Grade bin to the file browser.
- You can now use the Delete Folder button in the file browser to delete grade file folders.
- You can select folders in the file browser and press **Ctrl**+**Delete** to delete them.
- You can select grade files in a folder and press **Ctrl**+**Delete** to delete selected grade files.

- When you are in Details or Proxies view, clicking on the name field of a thumbnail now only selects the thumbnail and no longer picks it up. Clicking on the thumbnail with the cursor picks up the shot.
- When you are in List view, click in the Name column to drag and drop shots to the Grade bin or Storyboard. Clicking in any other column will only select the shot.
- You can right-click a grade file in the expanded Grade bin to load its reference image into the frame buffer.

Data Management

EDL Assembly

The following are the enhancements made to the EDL assembly feature:

- Since you can now drag and drop shots from one Shot bin folder to another, you can assemble an EDL based on the shots within that folder.
- Enhancements have also been made for EDL assembly with a stereoscopic project. See EDL Assembly on page 12.

Wiretap Interoperability

The following is the list of the new and improved interoperability features between Lustre and the Visual Effects and Finishing applications:

- Previously, marry grade files could only be created with content coming exclusively from the Wiretap server (soft import/publish only). Now, marry grades can be created with content coming from both the Wiretap server and the Wiretap Gateway.
- Previously, media located on the Stone FS or Standard FS could not be used with the dust removal option. You are now able to use media from the Wiretap server, Wiretap Gateway, and Stone/Standard FS when performing dust removal within Lustre.

NOTE The render options within the Image > Dust menu are inactive when media is imported from the Wiretap server or Wiretap Gateway server. You can only render by using the Dust option within the Render > Local menu.

- Stereoscopic timelines are now supported on import and render.

  NOTE Stereoscopy is not supported when an Incinerator® cluster is connected to Lustre.

- 16-bit floating point timelines are now supported on import and render. When rendering 16-bit floating point media to Wiretap, select the "Identity Extended" output LUT in the Render > Output menu.

  NOTE Once you render the 16-bit half float media, the display will become lighter.

- It is now possible to import a timeline compiled of R3D media, soft-imported in Flame® or Smoke® 2011, and apply the Lustre transcode options. This applies to media soft-imported from Standard FS filesystems only. It does not apply to material on Stone FS filesystems.

NOTE Lustre has read/write access to media via any current Wiretap server. Earlier Wiretap server versions may provide read-only access.

Viewing Options

The colour view mode previously allowed you to display all the colour channels of an image, or individual channels in greyscale. The enhanced colour view mode for Lustre 2011 provides you with a Viewing options panel that allows you to select the colour view mode and viewing option. See Setting the Viewing Options on page 59. From the Viewing Options, you can select one of the following colour view options:

- All colour channels
- Only the red channel
- Only the green channel
- Only the blue channel
- Luminance

Within the Viewing Options, you are now able to select the following:

- **Single View:** This is the default view. You can select which playhead you want to display in the viewer (i.e., Playhead A or B).

- **Dual View:** You can display the image of Playhead A and Playhead B at the same time. You can view these images side-by-side in two viewers, or as an image in a single viewer in a split view. A split view can be displayed with a horizontal or vertical wipe. You can modify the proportion of each image that displayed using the Value slider.
  If you are working in a stereoscopic project, you can also use this mode to display the image for Playhead A and B, or the Left and Right Eye of the current frame at the same time. See Player Viewing Options on page 13.
- **Multi View:** You can display 2, 4, 9, or 16 shots.

As you make your viewing selections, the image on the View Mode button updates to reflect the options you have selected.

TIP To return to the default Single view, right-click the View Mode button or press **F5**.

You can also modify viewing options using the hotkeys and the Autodesk Control Surface. See Hotkeys on page 17 and Autodesk Control Surface (ACS) on page 18.

Stereoscopic Workflow

The following enhancements improve the workflow for stereoscopic projects.

Stereoscopy State

When a project is set to stereoscopy mode by enabling the Stereoscopy button in the Setup > Grade menu, the saved cut will now retain the setting when it is reloaded in Lustre.

EDL Assembly

The following enhancements improve the process of EDL assembly in a stereoscopic project:

- When you enable the Match Grade feature for a stereoscopic timeline, the shots in the Left Eye and the Right Eye will be matched, respectively, to the cut file's left and right shots.

- When you load a Colour Decision List (CDL) in the EDL Panel, CDL data is applied to both the Left Eye and Right Eye.
- A change cut can be applied from one stereoscopic timeline to another. If other layers exist in a timeline that is not assigned to a Left Eye or Right Eye, the layer remains unchanged.

For more information, see Assembling a Stereoscopic EDL on page 69.

Player Viewing Options

In Dual View mode, you have the option to view an image in the Left Eye and Right Eye at the same time, instead of an image in each playhead. In addition to the horizontal and vertical wipe, you can use the Blend option to display the image of one eye overlaid over the other and edit the level of blending between the Left Eye and Right Eye. See Viewing Stereoscopic Footage in Dual View on page 71.

Storyboard Viewing Options

The collapse function and timeline sort modes are now fully supported in a stereoscopic project.

Editing

For a Left Eye and Right Eye with identical timelines, when Sync mode is enabled, the following editing operations are fully supported:

- Adding or removing dissolves
- Editing dissolve curves and duration
- Selecting elements in the Storyboard or Timeline
- Cutting or joining elements
- Trimming, retrimming, slipping, and sliding elements
- Deleting elements
- Retiming shots
- Performing confidence checks

- performing scene detection

Grading

The following grading operations are now fully supported in a stereoscopic project (see Grading Stereoscopic Footage on page 73):

- When Sync mode is enabled, load, copy, and drag-and-drop operations for Left Eye and Right Eye grading data is applied to respective destination eyes (for example, grading data dragged from a Right Eye layer is always applied to a Right Eye destination layer, even if it is dropped on the Left Eye). See Synchronizing the Left and Right Eye on page 72.
- When Sync mode is enabled, you can copy Left Eye and Right Eye grading data from one secondary layer to another, and the grading data for each eye that was applied when Sync was disabled will be copied to appropriate eyes.
- When Sync mode is enabled, you can now use the Match feature to match colours for both the Left Eye and Right Eye simultaneously.
- When Sync mode is enabled, you can click the Bypass button to bypass the menu parameters of both eyes simultaneously. When Sync mode is disabled, the menu parameters of the selected eye are bypassed. See Bypassing Menu Parameters of an Eye on page 74.

Repositioning Images

Use the Convergence feature to reposition Left Eye and Right Eye shots simultaneously and fix discrepancies. When both Sync and Convergence modes are enabled, the horizontal, vertical, and scale repositioning sliders will offset the assigned eye and cause the unassigned eye to have an equal and opposite offset. See Repositioning the Left Eye and Right Eye on page 70.

Dust Removal

You can now perform dust removal operations while working in a stereoscopic project. Dust removal is only performed on one eye at a time.

Reference Images

When viewing reference images, images for both the Left Eye and Right Eye are displayed simultaneously in frame buffer.

Autodesk Control Surface Stereoscopy Options

You can also control some stereoscopic workflow features using the Autodesk Control Surface. See Autodesk Control Surface (ACS) on page 18.

Marry Grade Support

The marry grade feature is updated with the following in Lustre 2011. See Saving and Loading Marry Grades on page 55.

- You can now generate marry grade files for stereoscopic footage.
- You can now generate marry grade files for content imported from the Wiretap Gateway and the Wiretap Gateway Server.
- Marry grades have a dedicated shot-based Grade bin, in which more than one version of the marry grade can be saved per shot. Marry grades used in the current project can be accessed via the storage containers in the standard Grade bin. Marry grade folders can be accessed and displayed in the Grade view. See Using the Marry Grade Bin on page 40.
- You can hold the **Shift** key and double-click a marry Grade bin storage container to load the grade to the selected shot in the Storyboard and all shots after it.
- Marry grade files can be saved as binary or XML files. To save a marry grade file as an XML file, hold down **Ctrl** as you click the Save button.
- You can generate marry grade files based on the wedge number range or its unique identifier (UID). In the Rendering menu, the options in the Marry Grade Format option box are now Based on Wedge and Based on UID to reflect this change. The directory structure of marry grade files contains folders based on the format selection. Each folder is named after the range of frames based on the format selection.

Other Enhancements

InfiniBand Support for BrowseD Expanded

Lustre 2011 introduces InfiniBand support for the *BrowseD* server for all Lustre Linux® workstations. Using BrowseD over InfiniBand allows you to achieve faster rendering with Burn® for Lustre or the Slave Renderer.

To use BrowseD over InfiniBand, you need to obtain a special BrowseD IB license. This license allows you to use BrowseD over InfiniBand or over GigE.

See the latest version of the Lustre Installation and Configuration Guide for information on enabling InfinBand for BrowseD, and on configuring Burn for Lustre and the Slave Renderer to use the BrowseD server.

Storyboard Update

There are changes as to how and when the Storyboard is updated:

- In the Setup > Interface menu, the Storyboard Update button toggles how thumbnails are updated in the Storyboard. This feature can also be enabled by pressing **Shift+1**.
- The Storyboard updates when grading is applied using the keyboard or the Autodesk Control Surface.
- The Storyboard updates in Bypass mode, and after a Reset, Undo, or Redo operation.
- When changes are made to shots within the timeline, Lustre only updates the thumbnail of the shot within the Player. The remaining shots will have a grey dot in the bottom-right corner signifying that there are updates to the thumbnails. See Updating the Storyboard Thumbnails on page 37.

Video Playout

The following are enhancements made to the Playout menu:

- If the Telecine feature is enabled in the Editing > Playout menu, and Video Info is enabled within the Render > Local menu, the source timecode is visible on the footage after you render the media.

- If the Telecine feature is enabled in the Editing > Playout menu when the VTR emulator is created, the VTR emulator operates in telecine mode by sending the source timecode on the RS-422 port.

Hotkeys

The following is a list of global viewing hotkeys.

Press:	To:
F1	Display Playhead A.
F2	Display Playhead B.
Ctrl+F1	Cycle through the colour view selections (i.e., colour, red, green, blue, and luminance channels).
Shift+Ctrl+F1	Return to the previous colour view selection.
F3	Cycle through the viewer options (i.e., Single, Dual, or Multi view).
Shift+F3	Return to the previous viewer option.
F4	Cycle through the Playhead A and B Dual view modes (i.e., 2-up, horizontal wipe, and vertical wipe).
Shift+F4	Return to the previous Playhead A and B Dual view mode.
Ctrl+F4	Cycle through the Stereo Dual view modes (i.e., 2-up, horizontal wipe, vertical wipe, and blend).
Shift+Alt+F4	Return to the previous Stereo Dual view mode.
F5	Toggle between the current view options and the Single (default) view.
Ctrl+F5	Cycle through the Multi view modes (i.e., 2, 4, 9, and 16).
Shift+Ctrl+F5	Return to the previous Multi view mode.
Shift+'	Swap the position of two shots.
Shift+1	Enable Update Storyboard mode.

Press:	To:
E	Show the high dynamic range (HDR) value of the selected colour within the OpenEXR media.
Ctrl+Delete	Delete selected grade files in the expanded Grade bin.
Ctrl+Delete	If no grade files are selected, delete selected folders in the Grade view file browser.

Autodesk Control Surface (ACS)

The following is a list of additional functionality that has been added to the ACS panel.

Stereoscopy Hotkeys

New options are accessible through the ACS to accommodate stereoscopic workflows. See Working with Stereoscopic Projects on page 74.

Press:	To:
F3	Toggle the Sync mode state. The state of the Sync mode appears on the digital display of the Colour Grading panel.
F4	Toggle between the Left Eye and the Right Eye. The currently assigned eye appears on the digital display of the Colour Grading panel.
F5	Enable and disable Convergence mode. When Convergence mode is active, it is displayed on the digital display of the Function panel. See Repositioning Shots on page 75.

Viewing Option Hotkeys

The new viewing options are also accessible through the ACS.

To access the viewing options:

1. On the Navigation panel, press the top More button and then Grade.
2. Using the F1-F4 buttons on the Navigation panel, adjust the viewing option. See Player Viewing Options on page 65.

Other Changes

The following is a list of the additional changes for Lustre:

- The selection process in the Details, Proxies, and List views are consistent in the File Browser, Shot bin, and expanded Grade bin.
- You can now select the grades of multiple shots in the timeline and copy them to another set of shots (in the same layer or in another layer). Shots do not have to be next to each other.
  For example, in a 5-shot sequence, the first, third, and fifth shot in a layer are selected. While holding down the **Shift** and **Ctrl** keys, the grade selection is dragged and dropped to a new set of destination shots: the grade selection is copied to a destination shot on which it is dropped, and the third and fifth shot after it. The second and fourth timeline segments in the destination shots will be unaffected.
- You can now swap the position of two shots selected in the Storyboard or the timeline. The shots can be in different layers (or eyes, in a stereoscopic project). Once the two shots are selected, press **Shift+'** to interchange the position of the selected shots in the timeline.
- You can select shots within a sorted timeline and sort the new selection.

Audio

2

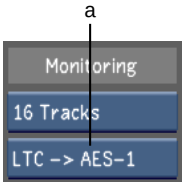
Playback Using the LTC Chase Option

The LTC Chase Options allow you to send the timeline's timecode through the DVS or AJA BOB to an audio device that can chase the LTC timecode. By default, the LTC timecode is the same as the record time (REC TC). For example, if the start timecode for the timeline is 10:00:00:00, the LTC will be 10:00:00:00. When you move the shot positioner to a further position in the timeline and press play, the LTC value is also updated so it is in sync with the record timecode. If the Telecine option is enabled in the Editing>Playout menu, the LTC timecode is the same as the source timecode.

NOTE Your LTC Chase Option settings are saved in the *context.config* file.

To play back the audio track using the LTC Chase Options:

1. Click Editing in the Main menu, and then click Capture.
2. Select the appropriate raster to observe the audio and video files together. Refer to “Selecting a Raster for Playout” in the “Video Capture and Video Playout” chapter of the *Luster user guide*.
3. (Optional) Click Setup in the Main menu, and then Audio to display the Audio menu. If you are using the AJA BOB, select an audio channel from the LTC Track Selector that is to represent the LTC channel.



(a) LTC Track Selector option box

NOTE Since the AJA BOB does not have a designated LTC channel, you must assign one of the audio channels to be the LTC channel. Refer to the Hardware Guide for information on how to setup the AJA BOB for the LTC Chase Option.

4 Make sure the audio device is set to chase.

Now when you play back the timeline, the audio track is played at the same time.

Use Explicit Timecode

If the audio device has a different timecode than the timeline, you can set a different timecode by enabling the Use Explicit TC button. For example, if your source timecode starts at 10:00:00:00 and your audio timecode begins at 11:00:00:00, you can enable the Use Explicit TC option and create an offset of 1:00:00:00.

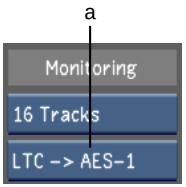
To play back an audio track with a different timecode:

1 Click Editing in the Main menu, and then click Capture.

2 Select the appropriate raster. Refer to "Selecting a Raster for Playout" in the "Video Capture and Video Playout" chapter of the *Lustre User Guide*.

3 Click Setup in the Main menu, and then Audio to display the Audio menu.

4 (Optional) If you are using the AJA BOB, select an audio channel from the LTC Track Selector that is to represent the LTC channel.



(a) LTC Track Selector option box

NOTE Since the AJA BOB does not have a designated LTC channel, you must assign one of the audio channels to be the LTC channel. Refer to the Hardware Guide for information on how to setup the AJA BOB for the LTC Chase Option.

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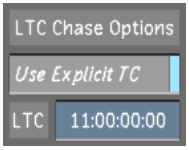
5 Enable Use Explicit TC.

6 In the timecode field, enter the timecode of when you want the audio track to begin.



Now when you move the shot positioner, the audio and video are in sync.

File Browser

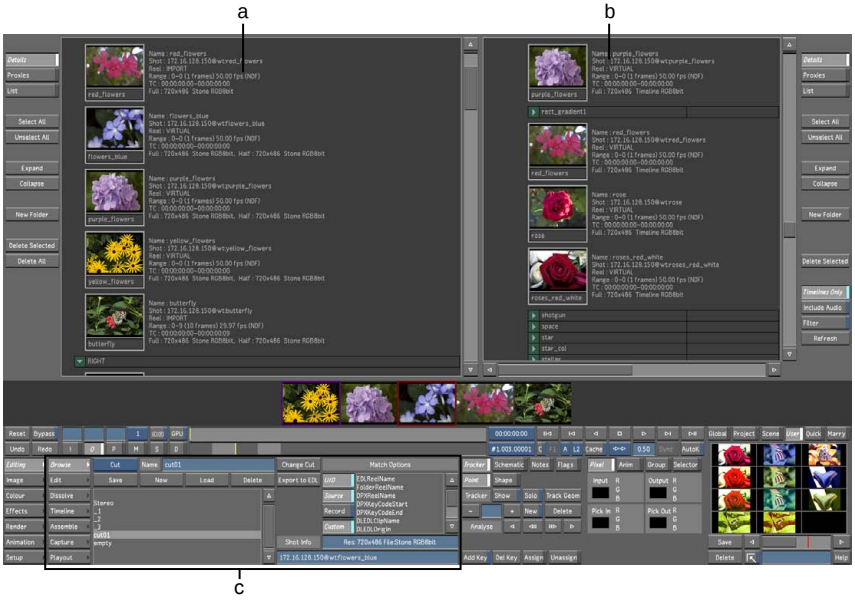
3

Accessing the File Browser

Use the file browser to locate shots and load them into the Shot bin.

To access the file browser:

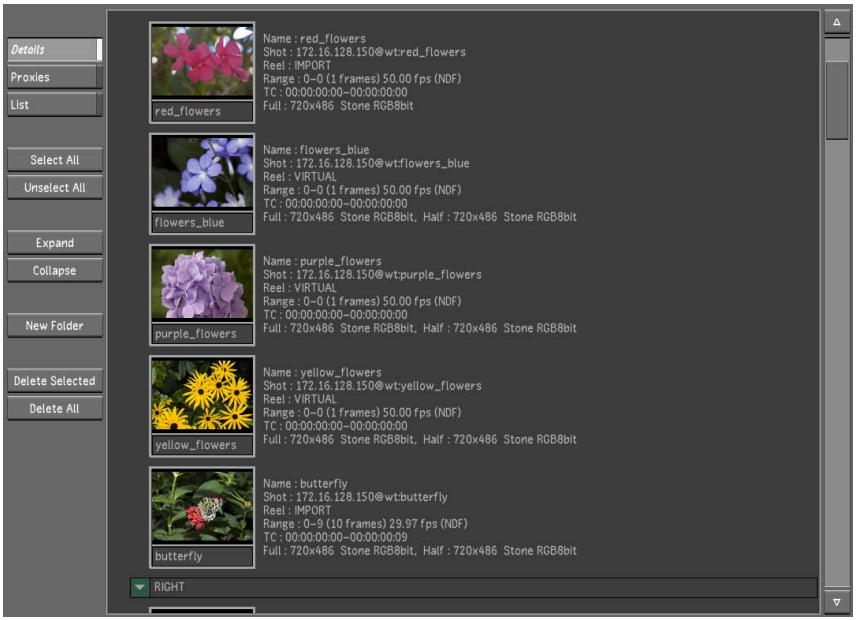
➤ Click Editing, and then click Browse.
The Browse menu and the file browser appear.



(a) Shot bin (b) File browser (c) Browse menu

When you are in the Browse menu, the work area is divided into three areas.

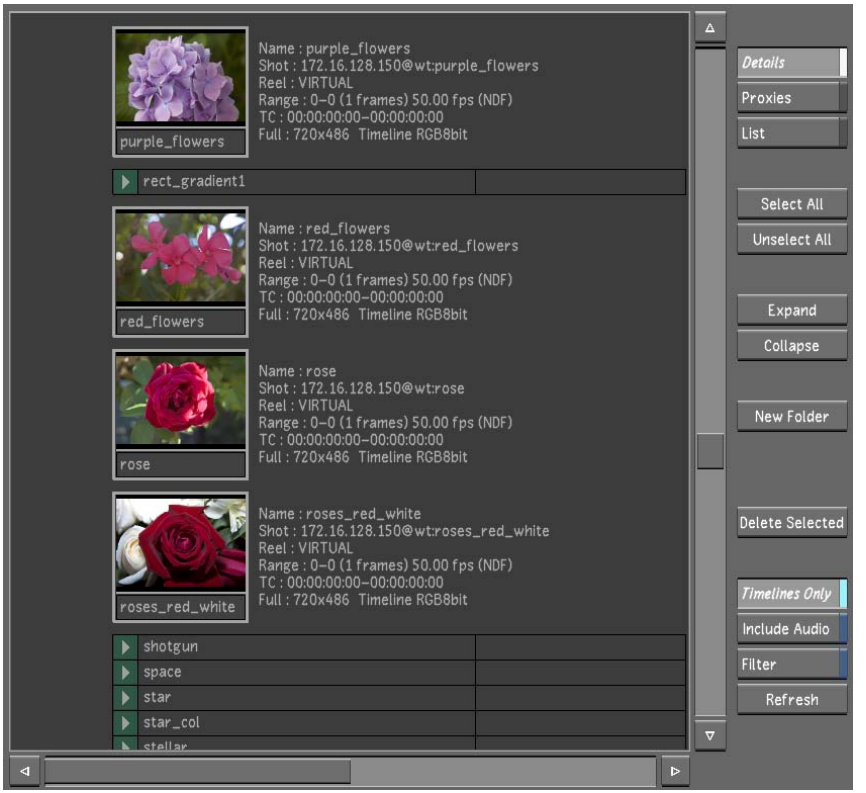
Shot bin Use to organize the shots you are using in your cuts.



Click:	To:
Details	Display shots in Thumbnail and Text view. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are disabled.
Proxies	Display shots in the Shot bin as thumbnails. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are enabled.
List	Display shots in Text view.
Select All	Select all shots in the Shot bin so that they can be added to the Storyboard simultaneously.
Unselect All	Deselect the selected clips in the Shot bin.
Expand	Display the contents of the selected folder.
Collapse	Hide the contents of the selected folder.
New Folder	Create a new folder. First select the main folder under which the new one is to be created. Rename the folder by right-clicking it and

Click:	To:
	entering a new name (the root, *Shot bin*, cannot be renamed). Shots already in the Shot bin cannot be moved to the new folder.
Delete Selected	Delete selected shots.
Delete All	Delete all shots from the Shot bin. Another click of this button is required for confirmation.

File browser Use to locate footage and bring it into the Shot bin. When copying captured footage into Lustre, always place the files into the Scans-Full home directory. In the file browser, you can see if files are correctly located in the Scans-Full home directory. If they are local files, the path to the media file starts with the word <HOME>.



Click:	To:
Details	Display details about all clips.
Proxies	Display only the clip thumbnails (without details).
List	Display shot information in a tabular Text view.
Select All	Select all clips in the file browser.
Unselect All	Deactivate all selections in the file browser.
Expand	Display the contents of the selected folder.
Collapse	Hide the contents of the selected folder.
New Folder	Create a new folder in the currently selected folder. Rename the new folder by right-clicking it and enter-

Click:	To:
	ing a new name (the root folder cannot be renamed). Clips already in the file browser cannot be moved to the new folder.
Delete Selected	Delete selected shots. (To confirm deletion, Hold down the **Ctrl** key and click again.)
Delete All	Delete all shots from the Shot bin. (To confirm deletion, Hold down the **Ctrl** key and click again.)
Include Audio	Downloads audio tracks from the Wiretap server.
Timelines Only	Display the timelines coming from the Wiretap server.
Filter	Hide specified folders (defined in the *init.cfg* file) from the file browser view.
Refresh	Rescan the file systems and update the file browser with up-to-date information.

Browse menu Use to create and manage the cuts in the project.

Import File Browser

4

Importing an EDL, ALE, or Cutlist File

Before you can assemble an EDL, ALE, or Cutlist file, you have to copy the file into the current scene's *sacc_data* directory.

NOTE The file must have a **.edl*, **.ale*, or **.ctl* file extension or it will not appear in the EDL list.

There are two ways to import EDLs into Lustre:

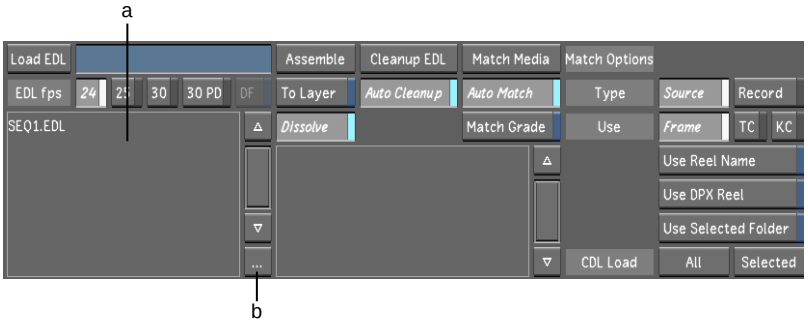
- Outside of Lustre, files can be copied manually to the *sacc_data* directory of the current scene. If running the Windows version of Lustre, save the EDL to the *C:\Program Files\Autodesk\Lustre 2011\projects\<project_name>\sacc_data* folder. If running the Linux version of Lustre, save EDLs in the */usr/Autodesk/lustre_2011/projects/<project name>/sacc_data* directory.

  NOTE Press **Ctrl+R** to refresh the EDL list to see recently copied files.

- Within Lustre, copies of EDL files are imported using the Import file browser.

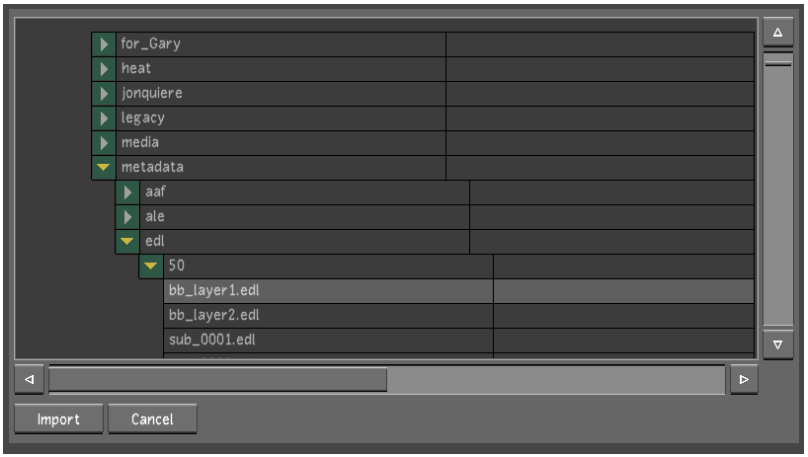
To import a copy of an EDL, ALE, or Cutlist file while in Lustre :

1. Click Editing, and then click Assemble.
   The Assemble menu appears.



(a) EDL list (b) Browse button

2 In the EDL List, click the Browse button.
The Import file browser appears.



3 Navigate to the appropriate source folder and select one or more EDL files. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are enabled.

4 Click Import or press **Enter**.

WARNING If an EDL with the same filename is already in the EDL list, the Import button will turn red. You must click again to confirm that you want to overwrite the file.

TIP If no files are selected, you can also press **Enter** to cancel file selection and close the Import file browser.

A copy of the file is imported into the *sacc_data* folder, and appears in the EDL list.

Importing a LUT File

Lustre can use the LUT files that you import into the application folder's *lut* directory. The LUT filename is displayed when the LUT list is displayed.

There are two ways to import LUTs into Lustre:

- Outside of Lustre, files can be copied manually to the application *lut* folder. If running the Windows version of Lustre, save print LUTs in the *C:\Program Files\Autodesk\Lustre 2011\lut* folder. If running the Linux version of Lustre, save print LUTs in the */usr/Autodesk/lustre_2011/lut* directory.
- Within Lustre, copies of LUT files are imported using the Import file browser.

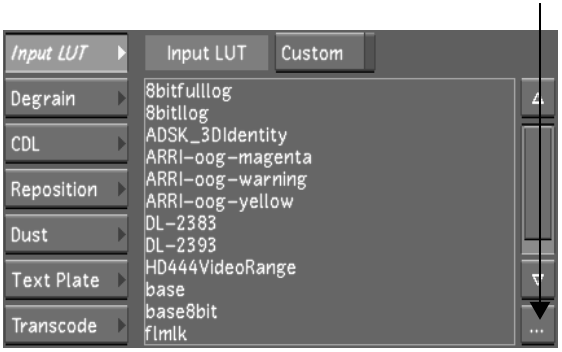
TIP Lustre provides industry-standard 3D LUTs which are located in *C:\Program Files\Autodesk\Lustre Color 2008 SP3\3D LUTs* in the Windows version and*/usr/discreet/Lustre_Color* in the Linux version.

NOTE 1D LUTS, 3D LUTs and floating conversion LUTs must have the naming convention, <*name.lut*>, <*name.3dl*>, and <*name.fclut*>, respectively, or they will not appear in the LUT list.

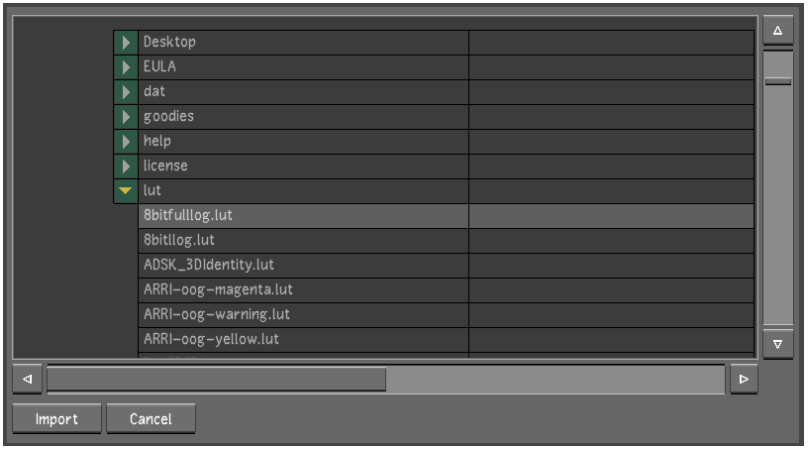
All LUT lists contain 1D and 3D LUTs, except the Float Conversion LUT list. Files with the *.fclut* extension can be imported to the Float Conversion LUT list are exclusive to that list.

To import a file while in Lustre:

1. Open the Input LUT menu.
2. In the LUT List, click the Browse button.



The Import file browser appears.



3 Navigate to the appropriate source folder and select one or more LUT files. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are enabled.

4 Click Import or press **Enter**.

WARNING If a LUT with the same filename is already in the LUT list, the Import button will turn red. You must click again to confirm that you want to overwrite the file.

TIP If no files are selected, you can also press **Enter** to cancel LUT file selection and close the Import file browser.

A copy of the LUT file is imported into the *lut* folder, and appears in the LUT list.

Importing an Audio File

Lustre can use the audio files that you import into the scene's *sacc_data\audio* directory or embedded in media imported from the Wiretap or Wiretap Gateway server.

NOTE The audio folder is automatically created when you create a scene.

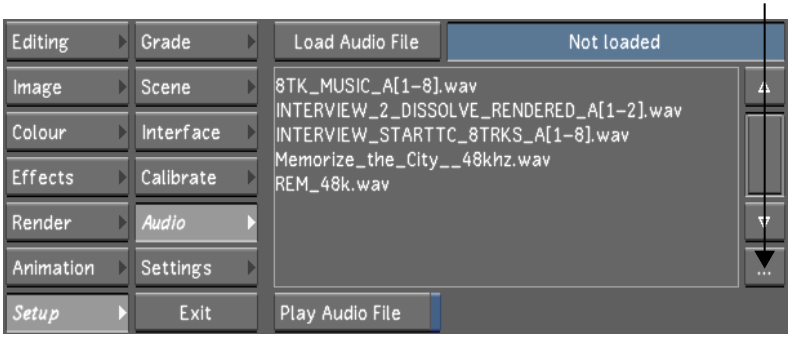
An imported audio file can comprise of a single track or up to 16 interleaved tracks.

There are three ways to import audio into Lustre:

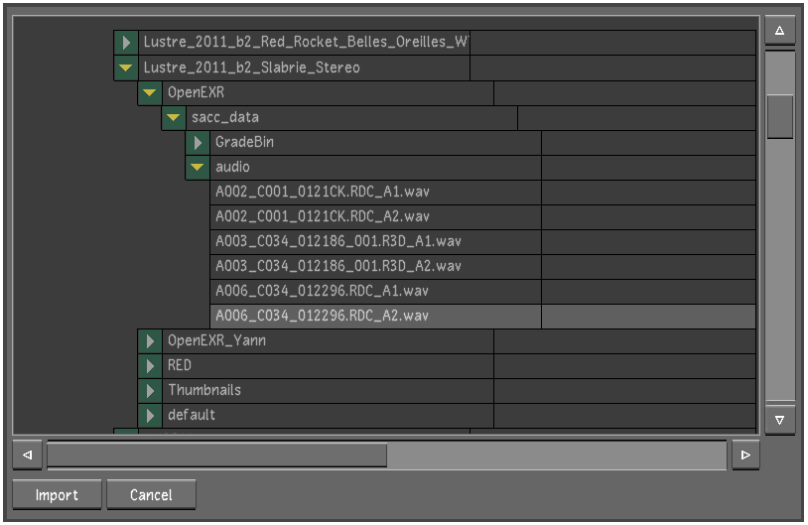
- Outside of Lustre, copy WAV or AIFF files manually to the scene's *sacc_data\audio* folder.
- Within Lustre, import copies of audio files using the Import file browser.
- Within Lustre, import audio through the Wiretap server and Wiretap Gateway server.

To import an audio WAV or AIFF file while in Lustre:

1. Click Setup in the Main menu, and then click Audio.
2. In the audio file list, click the Browse button.



The Import file browser appears.



3 Navigate to the appropriate source folder and select one or more audio files. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are enabled.

4 Click Import or press **Enter**.

A copy of the audio file is imported into the *sacc_data\audio* folder, and appears in the audio file list.

NOTE If you add audio files to the scene's *sacc_data\audio* folder after launching Lustre, press **Ctrl+R** to refresh the audio file list.

Storyboard

5

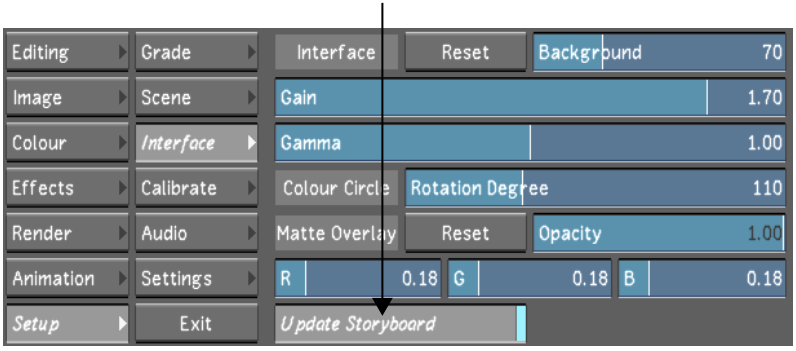
Updating the Storyboard Thumbnails

As you are making changes to the shots within your timeline, you may want to automatically see the changes within the Storyboard thumbnail. The update Storyboard option allows this to happen.

To enable or disable the automatic Storyboard thumbnail update option:

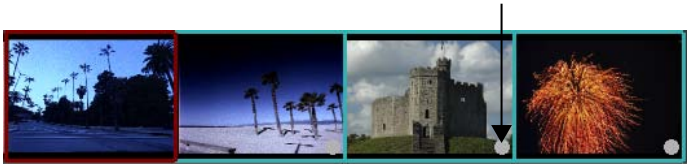
➤ Do one of the following:

- Within the Setup > Interface menu, click the Update Storyboard button.



- Press **Shift+1**.
- Within the Display & Interface menu of the user configuration settings, click Update Storyboard. Refer to “Display & Interface Settings” in the “Project Management” chapter in the *Lustre User Guide*.

If the Update Storyboard feature is enabled and you make changes to any shot that is not currently in the Player, a grey dot will appear on the bottom-right corner of the thumbnail. The grey dot signifies that a change has been made to that shot, but the thumbnail has not been automatically updated.



When you apply changes to a group of shots, only the thumbnail of the current shot within the Player is automatically updated. To update the other thumbnails, click the Storyboard thumbnail with the grey dot.

Enhanced Grade Bin

6

Using Grade Bins

Store shot settings to a Grade bin when you need grades for future reference or scratch pad memories. Intermediary grades are useful when you want to experiment with different looks. Grades are saved on a shot-by-shot basis and contain all shot and animation settings.

The location of grade files determine how they can be shared between users scenes, and projects.

Grade bin type:	Contains:
Global	Grades saved for use between all users and projects on the current workstation.
Project	Grades saved for the current project only.
Scene	Grades saved for the current scene only.
User	Grades saved for the current user only.
Quick	Grades saved in a user-defined folder. See Defining the Quick Folder.
Marry	Grades saved as Marry grade files. See Using the Marry Grade Bin on page 40.

TIP Place the cursor anywhere outside the file browser or expanded Grade bin, and press **Shift**+- to cycle through the display of different types of Grade bins.

You can also use Grade bin thumbnails as reference images.

Using the Marry Grade Bin

Unlike the other Grade bins, which are used to apply grading to any shot(s) in a given timeline, a Marry Grade bin is shot-specific. Each shot in the cut has its own dedicated Grade bin for its Marry grade files. For example, if a cut is composed of three shots, three Marry Grade bins exist, although the only visible Marry Grade bin is the one for the current shot. This allows you to save multiple Marry grades to the same shot.

Marry Grade file information is also displayed in the Grade view. Marry grade files are saved with their source media files (Marry grade files for media imported from Wiretap and Wiretap Gateway are saved with local links to the shots). Enable the Marry button under the file browser to navigate to the file folder in which Marry grades are located. See Using the Expanded Grade Bin on page 48.

You can also use the Marry grade controls in the Setup > Grade menu to save Marry grade files into the Marry Grade bin. See Saving and Loading Marry Grades on page 55.

Saving Grades

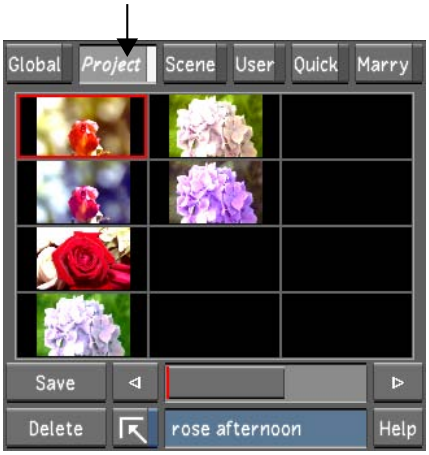
You can save grades to the Grade bin. When you save grades, all the settings are saved with a high-resolution image and a thumbnail for identification. By saving your shot settings to the appropriate Grade bin, you can save your shot settings globally, to a predefined folder, or limit them to a user, scene, or project. You can also save them with your shots as Marry grade files.

If you save grades to a global, project, scene or user Grade bin, each selected grade is saved in a separate storage container, starting from the selected container and proceeding column by column and left to right.

If you save grades to a Marry Grade bin, each selected grade is saved in a separate storage container in the current container position (highlighted in red) in the Grade bin for the shot.

To save a grade to a Grade bin:

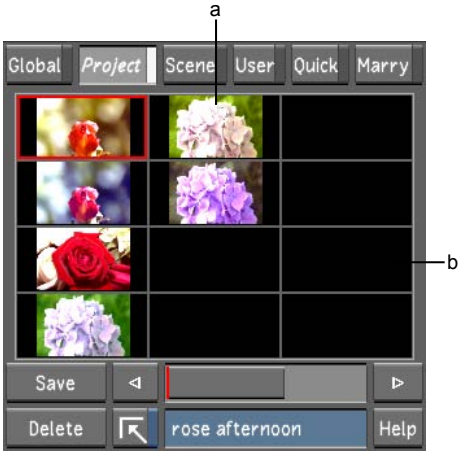
1. Select the Grade bin you want to use (for example, the Grade bin for the current project).



2 (Optional) Scroll to the area of the Grade bin you want to use. To scroll through a Grade bin, middle-click and drag right or left, or use the horizontal slider located immediately below the Grade bin. The red line in the slider indicates the current position.

3 Do one of the following:

- To create a grade, select an unused storage container.
- To save a new version of a grade, select the storage container of the current grade.



(a) Used storage container (b) Unused storage container

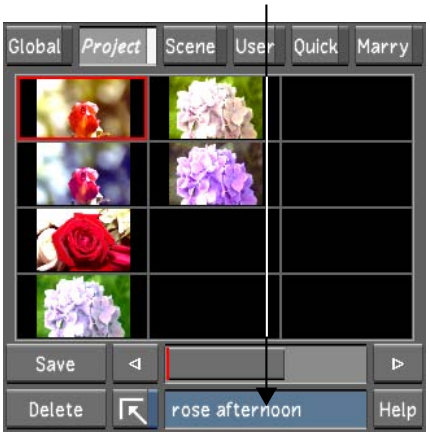
NOTE When you add a grade to a container in the last column of the Grade bin, three new columns are automatically added to the right. You can add an unlimited number of grades.

4 Click Save.

The settings from the current shot in the timeline are saved to the intermediary grade and a thumbnail of the current frame appears in the Grade bin.

TIP You can use the thumbnail as a reference image while you work on another shot.

5 (Optional) Enter a name or comment in the Note field and press **Enter**.



To save grading information from several shots to the Grade bin:

1 Do one of the following:

- To choose grades for specific shots, use the Storyboard or the Multi-Layer Timeline to select the shots whose grading information you wish to save to the Grade bin.
- To choose all shots in the timeline, leave all shots unselected.

2 In the Grade bin, select the storage container where you wish to save your grade.

3 Make sure the positioner is over a shot.

4 Hold down the **Shift** key while pressing the Save button.

WARNING Storage containers with existing grading information will be overwritten. If you are saving to storage containers that already have grading information, Lustre prompts you to confirm you want to overwrite these grades.

5 If you are saving to storage containers that already have grading information, confirm or cancel the action when Lustre prompts you to confirm the action.

The selected grades are saved to the Grade bin.

Applying Grades to Shots

You can apply grades to one or multiple shots in the Storyboard or timeline. Apply intermediary grades to your shots when you want to experiment with different looks. You can control which saved settings you want to apply—all the settings from the intermediary grade, only those selected in the Selector, or only those in the current menu.

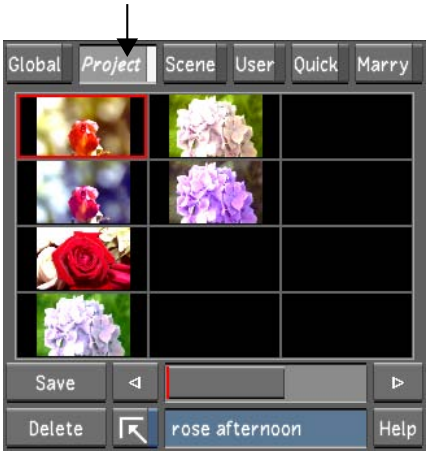
To load intermediary grades from a Grade bin:

1 In the Storyboard, select the shots to which you want to apply an intermediary grade.

TIP You can select multiple shots by right-clicking them in the Storyboard. You can also create groups of shots.

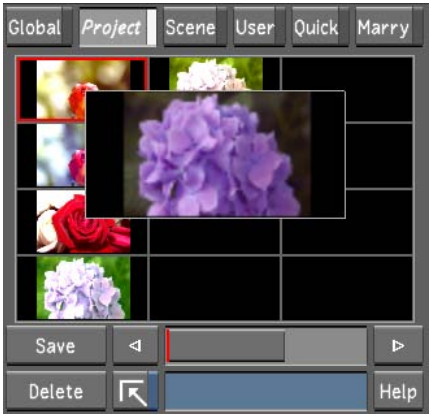
2 Select the Grade bin you want to use.

NOTE If you select the Marry Grade bin, each shot that you select will be loaded with the corresponding Marry grades for that specific shot. See Using the Marry Grade Bin on page 40.



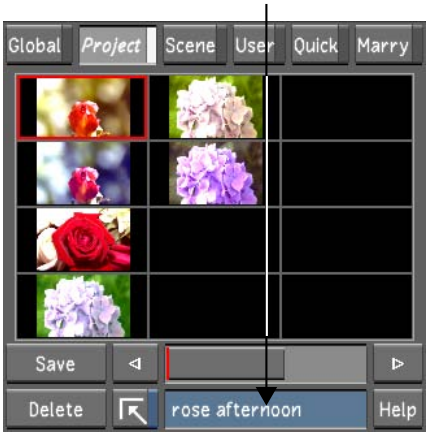
3 (Optional) Scroll through the Grade bin to the thumbnail representing the grade you want to load. To scroll through a Grade bin, middle-click and drag right or left, or use the horizontal slider located immediately below the Grade bin.

TIP To display an enlarged image of the thumbnail, place your mouse cursor over a thumbnail without clicking.



4 Click a thumbnail to view its name.

The thumbnail is outlined in red and its name appears in the Note field, which is editable by clicking the field.



5 Do one of the following:

- To load all the settings in the grade to the current shot only, double-click a thumbnail.

  TIP Double-click an unused storage container in the Grade bin to reset selected shots to their default settings.

- To load all the settings in the grade to selected shots, press **Shift** and double-click a thumbnail.
- To load the grade settings to the current shot only from the current menu only, press **Ctrl** and double-click a thumbnail. For example, if the Grading menu is displayed, the saved settings from the Grading menu are applied.
- To load the grade settings to selected shots from the current menu only, press **Ctrl+Shift** and double-click a thumbnail. For example, if the Grading menu is displayed, the saved settings from the Grading menu are applied.
- To load the grade settings that are selected in the Selector to the current shot only, press **Alt** and double-click a thumbnail.
- To load the grade settings that are chosen in the Selector to a selection of shots, press **Alt+Shift** and double-click a thumbnail.

The grade is applied. In the Player, the image is updated to reflect the current settings.

TIP To revert to the previous settings, click Undo.

Within the Storyboard view, you can drag and drop the grading from one shot to another. You can reapply the grading in one or more different shots without having to drop it in the Grade bin first.

To drag and drop the grade from one shot to another:

➤ Do one of the following:

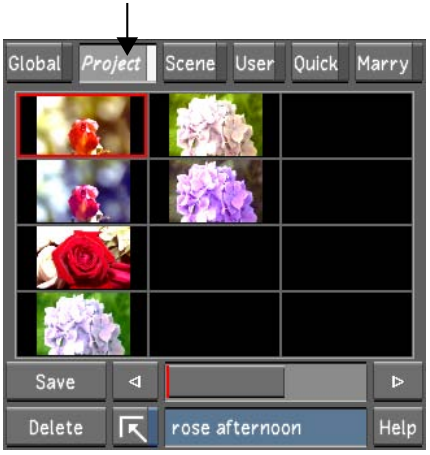
- Hold down **Ctrl**+**Shift** and drag and drop to copy grades to multiple destinations.
- Hold down **Ctrl**+**Alt** and drag and drop to use the Selector to copy grades to a single destination.
- Hold down **Ctrl**+**Shift**+**Alt** and drag and drop to use the Selector to copy grades to multiple destinations.

Deleting Grades

You can delete grades one at a time, or delete all grades from the Grade bin simultaneously. When you delete a grade, the thumbnail is also deleted.

To delete grades from a Grade bin one at a time:

1 Select the Grade bin from which you want to delete grades.



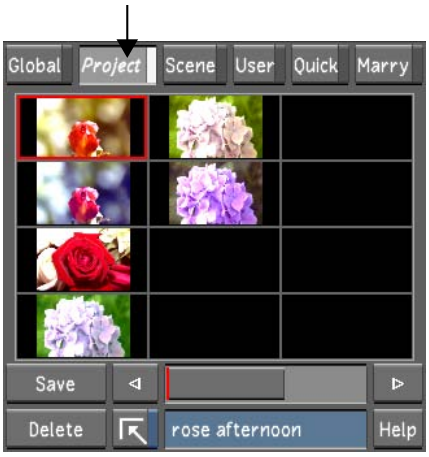
2 (Optional) Scroll through the Grade bin to the thumbnail you want to delete. To scroll through a Grade bin, middle-click and drag right or left.

3 Click the thumbnail you want to delete.
The name of the selected thumbnail appears in the Note field.

4 Click Delete and confirm the action.
The grade and associated thumbnail are deleted.

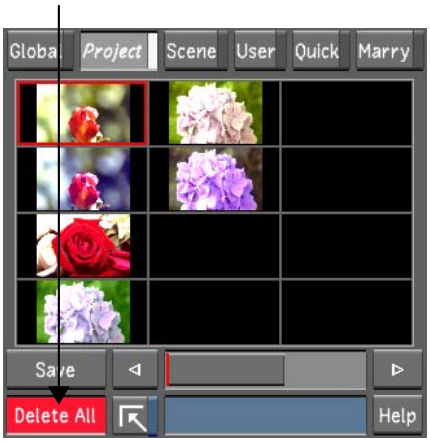
To delete all grades from the Grade bin simultaneously:

1 Select the Grade bin from which you want to delete grades.



2 Hold down **Shift** while clicking Delete.
The Delete All button appears as a red confirmation button.

3 Do one of the following:
- Click Delete All to clear the Grade bin.
- Click outside the button to cancel the operation.



Using the Expanded Grade Bin

Use the expanded Grade bin to locate and display grade files. You can manage intermediary grade files at the global, project, scene, or user level, and Marry grade files at the shot-based level. You can also define a custom folder and bookmark it for quick access.

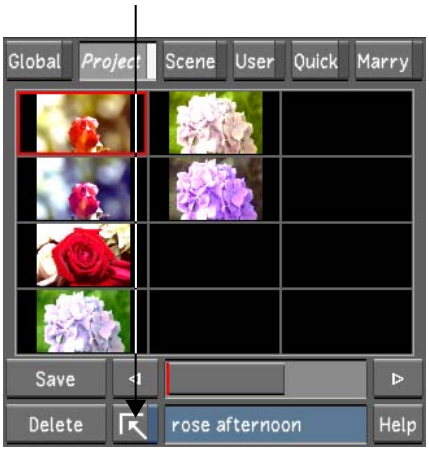
In addition to move, copy, and delete operations, you can create new folders, enable a player to view grades and shots, and work in different views to view grade files.

Accessing the File Browser

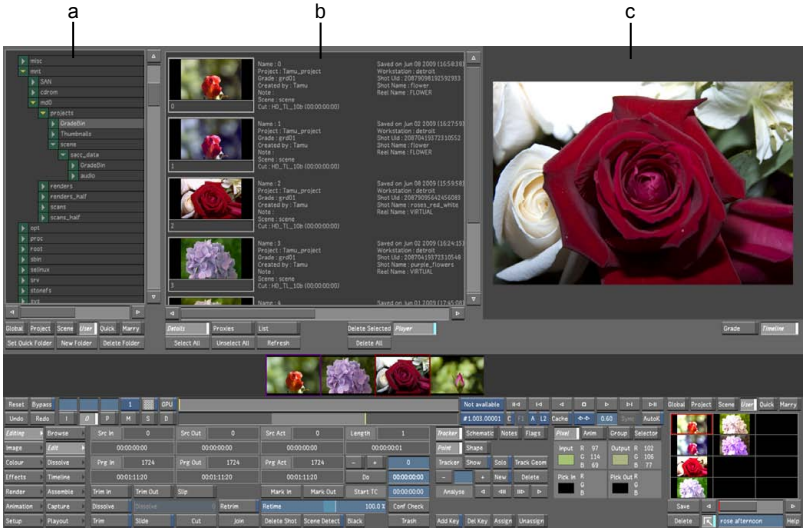
Use the file browser to locate grade data and load it into the Grade bin.

To access the file browser:

➤ In the Grade bin, click the Expand button.



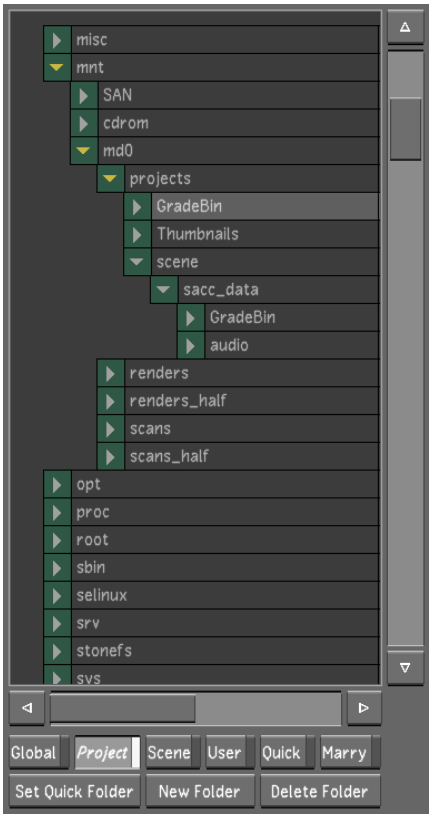
The Grade view appears.



(a) File browser (b) Expanded Grade bin (c) Player

When you are in the Grade view, the work area is divided into multiple areas.

File browser Use to locate grade data and display it in the expanded Grade bin. In the file browser, you can see if there are Grade bin folders at the user, scene, project, or global level or in your Scans Full or Scans Half location.

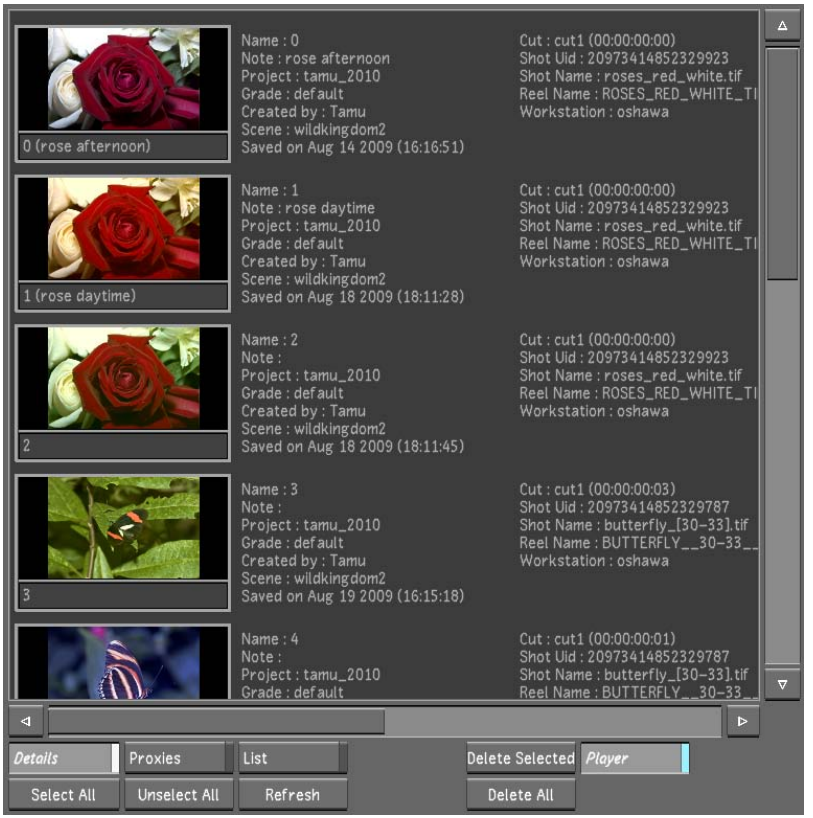


Click:	To:
Global	Display the location of the global Grade bin folder and its contents.
Project	Display the location of the project Grade bin folder and its contents.
Scene	Display the location of the scene Grade bin folder and its contents.
User	Display the location of the user Grade bin folder and its contents.
Quick	Display the location of a pre-defined Grade bin folder and its contents.

Click:	To:
Marry	Display the location of a Marry Grade bin folder and its contents. See Using the Marry Grade Bin on page 40.
New Folder	Create a new folder under the currently selected folder. Enter a new name. Rename the folder at any time by right-clicking it and entering a new name (the global, scene, project, and user directories, cannot be re-named).
Delete Folder	Delete the currently selected folder (for which you have deletion permissions enabled). To confirm deletion, hold down the **Ctrl** key and click again.

TIP Place the cursor over the file browser or expanded Grade bin, and press **Shift+-** to cycle through the display of different expanded Grade bins.

Expanded Grade bin Use to display and organize the grade files.



Click:	To:
Details	Display grade files in Thumbnail and Text view. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are enabled.
Proxies	Display grade files in Thumbnail view. Traditional methods of multi-selecting (**Shift**-click, **Ctrl**-click) are enabled.
List	Display grade files in Text view.
Player	Display the contents of the expanded Grade bin and the Player. Disable button to display the expanded Grade bin only. Press **Q** to alternate the display between a large Storyboard view and the Player.
Select All	Select all grade files in the expanded Grade bin.

Click:	To:
Unselect All	Deselect the selected grade files in the expanded Grade bin.
Refresh	Rescan the file systems and update the file browser and expanded Grade bin with up-to-date information.
Delete Selected	Delete selected grade files.
Delete All	Delete all grade files from the expanded Grade bin. (To confirm deletion, hold down the **Ctrl** key and click again.)
Player	Show/hide a player in the Grade view.

Player Use to display selected shots and grade files.

Click:	To:
Grade	Display the current grade selected in the expanded Grade bin.
Timeline	Display the current shot selected in the Timeline or Storyboard.

Deleting Grades From the Expanded Grade Bin

You can delete all or selected grade files from the expanded Grade bin.

NOTE Deleting grade files from the expanded Grade bin does not delete grade data from the Storyboard.

To delete selected grade files from the expanded Grade bin:

1. Select the grade files you want to delete by doing one of the following:
   - Click Select All in the expanded Grade bin.
     All the grade files are selected.
   - Press **Ctrl** and click the name on the thumbnail of the grade file.
     Only the grade files you choose are selected.
2. Click Delete Selected, and then confirm the action.
   All the selected grade files are deleted.

To delete all grade files from the expanded Grade bin:

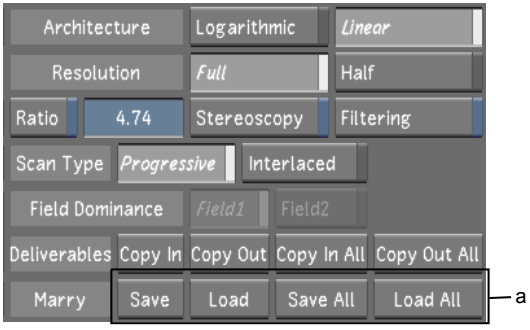
1. Click Delete All.
2. Hold down the **Ctrl** key and click the Delete All button again to confirm the action.
   All the grade files are deleted.

Marry Grades

7

Saving and Loading Marry Grades

When you save a grade using the Marry controls, the colour grading metadata is saved separately from the regular grade file. Marry grade files are saved with the original shots (except for shots imported from Wiretap or the Wiretap Gateway). Marry grade files are also saved and loaded with the Marry Grade bin and Grade view. See Using the Marry Grade Bin on page 40.



(a) Marry controls

You can save an individual grade for the current shot or grades for all the shots in the timeline. Similarly, you can load the grade back to the current shot or to all shots in the timeline. One situation where Marry grade files can be useful is if you start your project working on a rough cut of a scene, and later are given the final EDL for the scene. You can save the grades created for particular shots on the rough cut and apply them to shots on the final cut.

Marry grade files can be created with content coming from the Wiretap server. Marry grade files imported from a Wiretap location are stored in the *wt* folder

of your project's Scans Half Home or Scans Full Home location. A local *wt* folder is created for Marry grade files using media from Wiretap or Wiretap Gateway.

Marry grade files are saved as binary files by default. You can also save the grading metadata as an XML file.

NOTE You can load Marry grade files from previous versions of Lustre that are in text format. They will be automatically converted into binary files.

The folders in which Marry grade files are saved are named based on the unique identifier (UID) or wedge number of the shot. When you use the Scene Detect function to splice a larger shot into individual shots, each scene-detected shot is also assigned a unique identifier (UID). A shot is also assigned a wedge number, which is a range based on the first and last frame in the shot. A wedge number is also associated to shots that are spliced manually.

NOTE You can find the UID for each shot in the cut file located in your scene's *sacc_data* folder.

When configuring the Marry Grade panel, select Based on Wedge or Based on UID in the Marry Grade File Location option box. See Rendering Settings.

To save the grade of one or all shots in a cut:

1. Click Setup, then click Grade to display the Grade menu.
2. If you are saving the grade for one shot, navigate to that shot.
3. Using the Marry controls, do one of the following:
   - Click Save to save the grade for the current shot as a binary file.
   - Click Save All to save individual grades for each shot in the cut.
   - Hold down the **Ctrl** key and click either Save or Save All to save the grade(s) in XML format.

To load the grade of one or all shots in a cut:

NOTE To load grades using the Marry controls, the shots in the two cuts must point to the same original footage. If you want to apply the grade of one shot to a different shot, use the Grade bin. See Using Grade Bins on page 39.

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1. Load any cut containing one or more shots for which individual grades have been saved.

2 If you are loading the grade of one shot, navigate to the shot.

3 Using the Marry controls, do one of the following:

- Click Load to load the grade of the current shot.
- Click Load All to load the grades for all shots in the cut.

The grades are loaded to the shots. If the cut contains shots for which no individual grades were saved, those shots are unchanged.

Viewing Options

8

Setting the Viewing Options

Lustre has several ways to view and work with single or multiple shots in the Player or the SDI monitor.

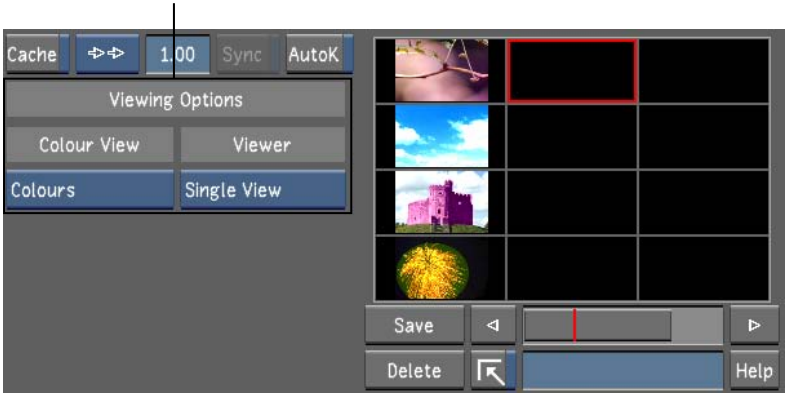
Within the Viewing Options, you can select the following:

- **Colour View** You can display all of the colour channels of an image, or individual channels in greyscale. The greyscale versions of colour channels represent, in values of grey, the amount of that colour channel found in each part of the image. The darker the grey, the greater the amount of colour present.
- **Single View** This is the default viewer. You can select which playhead you want to display in the Player (i.e., Playhead A or B).
- **Dual View** You can display the image of Playhead A and Playhead B at the same time. See Using Dual View on page 61.
  If you are working in a stereoscopic project, you can also use this mode to display the image for the Left and Right Eye of the current frame at the same time. See Viewing Stereoscopic Footage in Dual View on page 71 .
- **Multi View** You can display 2, 4, 9, or 16 shots. See Using Multi View on page 63.

To enable the viewing options:

1. Enable the Viewing Options button. The look of this button depends on the viewing option that is currently selected.

The Viewing Options panel appears to the left of the Grade bin.



2 Select the colour view option.

Cycle through the following options:

- Colours
- Red Channel
- Green Channel
- Blue Channel
- Luminance

3 Select the number of shots to view using the Viewer option box.

Select:	To display:
Single View	The default viewer. The viewer displays the image of the current playhead.
Dual View	The images of Playhead A and Playhead B. See Using Dual View on page 61. For a stereoscopic project, it displays either Playhead A and Playhead B, or the Left Eye and the Right Eye. See Viewing Stereoscopic Footage in Dual View on page 71.
Multi View	2, 4, 9, or 16 shots. See Using Multi View on page 63.

The Viewing Options are also accessible through the Autodesk Control Surface panel. Refer to “Player Viewing Options” in “The Autodesk Control Surface” chapter of the *Lustre Control Surface User Guide*.

To return to the Single view:

➤ Do one of the following:

- Press **F5**.
- Right-click the Viewing Options button.

This returns you to the default Single view.

NOTE Disabling the Viewing Options button does not disable the viewing options you have selected.

Using Dual View

The two images displayed in Dual view are the current frames on Playheads A and B. Dual view is useful for matching two shots or for copying colour correction parameters from one shot to another. You can view images side by side, or use a wipe. With a wipe (i.e., horizontal or vertical), you see a portion of each image. You can control the position of the wipe bar by adjusting the Value slider.

In a stereoscopic project, you can view the image of the Left Eye in one viewer and the image at the same frame of the Right Eye in the other. Refer to “Viewing Stereoscopic Footage in Dual View” in the “Stereoscopy” chapter of the *Lustre User Guide*.

To display Dual view:

1 Do one of the following:

- Enable the Viewing Options button, and in the Viewer option box, select Dual View.
- With the Viewing Options button enabled, press **F3** or click the Viewer option box to cycle through the viewer options until Dual View is displayed.
- If you are in Single view, and the previous mode was Dual view, press **F5** to toggle between the two views.
  The last used mode in Dual view is displayed.

2 Press **F4** to cycle through the display modes.

- **2-up** The current frames on Playheads A and B are displayed side by side.

- **Horizontal Wipe** The images assigned to Playheads A and B appear on the top and bottom, respectively.

- **Vertical Wipe** The images assigned to Playheads A and B appear on the left and right, respectively.

TIP When applying a wipe, use the Value slider to edit the percentage of the viewer that displays the image on Playhead B.

NOTE If you are working in a stereoscopic project, you can blend the Right Eye image over the Left Eye. See Viewing Stereoscopic Footage in Dual View on page 71.

Using Multi View

Multi view is useful for viewing your sequence in a Storyboard format while developing continuity between shots. With Multi view, you see the entire image, and you can cycle through viewing 2, 4, 9, or 16 shots.

To view multiple shots simultaneously in the Player:

1 (Optional) Select up to 16 shots.

NOTE If you do not select any shots, you will see the first shots in the sequence in Multi view.

2 Do one of the following:

- Enable the Viewing Options button, and in the Viewer option box, select Multi View.
- With the Viewing Options button enabled, press **F3** or click the Viewer option box to cycle through the viewer options until Multi View is displayed.
- If you are in Single view, and the previous mode was Multi view, press **F5** to toggle between the two views.
  The last used Multi view mode is displayed.

3 Press **Ctrl+F5** to cycle through the display modes.

The first two shots displayed are the current frames on Playheads A and B. The rest of the shots displayed are the selected shots, displayed sequentially from left to right in the order of selection.

NOTE If no shots are selected, after the first two shots, shots starting at the third shot in the cut are displayed sequentially from left to right.

4 (Optional) Pan the displayed shots by holding and dragging the middle mouse button within the Player, or scale the displayed shots by holding and dragging the middle and right mouse buttons within the Player.

You can make a new selection of shots while you are in Multi view. After you have selected the new shots, press **F6** to update the Multi view display with the new shots.

Viewing Multiple Shots on the SDI Monitor

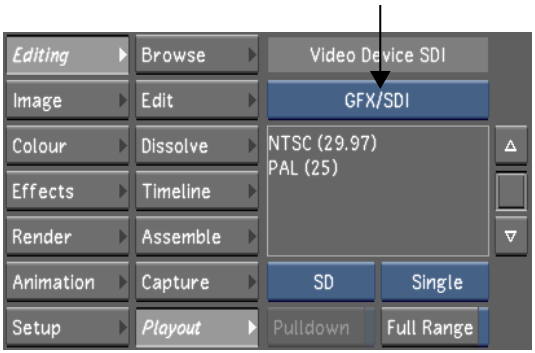
You can use Dual view and Multi view in the SDI monitor.

To view multiple shots on the SDI monitor:

1 Click Editing in the Main menu, and then click Playout.

The Playout menu is displayed.

2 Make sure GFX/SDI is selected in the Video/Graphics Raster option box.



3 From the Raster list, select the video resolution and scan mode that corresponds with your footage.

4 Press **F7** to activate the SDI output mode.

5 Complete one of the following:

- To view two frames on the SDI monitor, perform the procedure for viewing two frames. See Using Dual View on page 61.
- To view multiple shots on the SDI monitor, perform the procedure for viewing multiple shots. See Using Multi View on page 63.

NOTE You cannot view horizontal wipes, vertical wipes, or blends on the SDI monitor.

Player Viewing Options

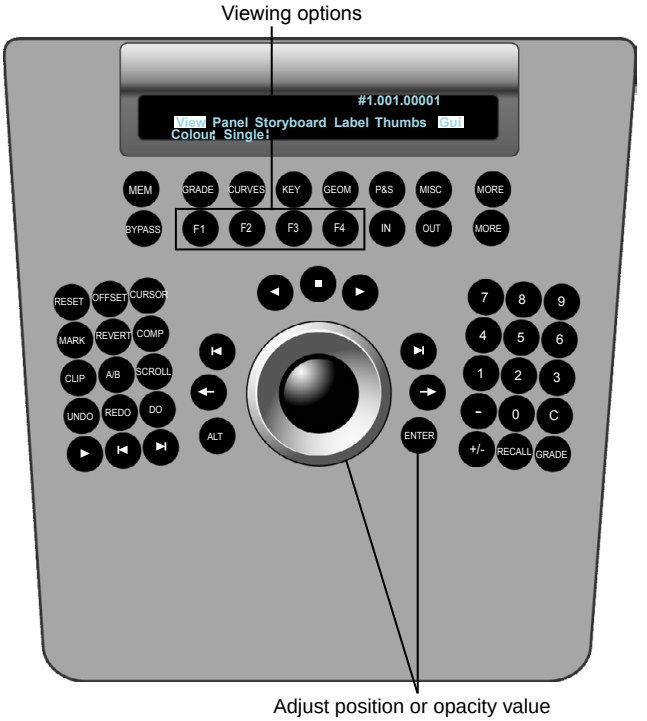
There are several ways you can view the shots within the Player. You can choose to display the shot(s) in a Single, Dual, or Multi view. These viewing options are accessible through the Navigation panel.

To access the viewing options:

1 Press the top MORE button on the Navigation panel.

2 Press GRADE to access the viewing options.

3 Use the following controls.



Press:	To:
F1	Cycle through the different colour view selections (i.e., colour, red, green, blue, and luminance channels).
F2	Cycle through the different viewers (i.e., Single, Dual, or Multi view).
F3	Toggle between Playheads A and B (A/B) or Left Eye and Right Eye (L/R). This is only applicable for Dual view.
F4	Cycle through the Dual view modes (i.e., 2-up, horizontal wipe, vertical wipe, or blend). Blend is only available if you have L/R selected. Cycle through the Multi view modes (i.e., 2-up, 4-up, 9-up, or 16-up).

NOTE To revert to the previous selection, press ALT on the Navigation panel and the corresponding F1, F2, F3, or F4 button.

4 (Optional) If you have selected a wipe or blend, you can adjust the position of the wipe or the opacity of the blend by holding ENTER on the Navigation panel and rotating the ring portion of the trackball.

Stereoscopy

9

Assembling a Stereoscopic EDL

Use an EDL to rebuild a timeline using the original footage that matches the edited timeline from the offline editing stage of post-production.

To assemble a Stereoscopic EDL:

NOTE This procedure is for every type of media except RED media.

1. Import the Left and Right Eye media that you want to assemble into its corresponding Left or Right folder within the Shot bin.
2. Click Editing in the Main menu, and then click Assemble.
   The Assemble menu is displayed.
3. Select the EDL you want to load from the EDL list and then click Load EDL.
4. Click Match Media.
5. Click Assemble to conform the EDL.
   A stereoscopic EDL is created.

To assemble a stereoscopic EDL for RED Stereo workflow:

1. Import the Left and Right Eye media that you want to assemble into its corresponding Left or Right folder within the Shot bin.
2. Click Setup in the Main menu, and then click Grade.
   Make sure the Stereoscopy button is disabled.
3. Click Editing in the Main menu, and then click Assemble.

4 Select the Right Eye EDL from the EDL list and click Load EDL.

5 Within the Shot bin, select the Right Eye folder.

6 Enable the Use Selected Folder button.

7 Click Match Media and then click Assemble to conform the EDL.

8 Enable the To Layer button.

9 Repeat steps #4-7 for the Left Eye media.

10 Click Setup in the Main menu, and then click Grade.

11 Enable the Stereoscopy button and then save the cut.

Repositioning the Left Eye and Right Eye

Repositioning is fully supported in a stereoscopic project. When Sync mode is enabled, you can reposition both eyes at the same time. (For example, the image in both eyes are offset horizontally by the same amount.)

You can also correct convergence discrepancies for the Left Eye and Right Eye by repositioning images at the same time in an equal and opposite manner. (For example, if you scale the image in the Left Eye to 0.80, the image in the Right Eye will be scaled to -1.20.)

You can converge two images using the repositioning options of the Autodesk Control Surface. See the *Autodesk Control Surface User Guide*.

TIP When converging a shot, select the Blend option in Dual View to overlay the images in the Player. See Viewing Stereoscopic Footage in Dual View on page 71.

To converge Left Eye and Right Eye images:

1 Enable Sync mode. See Synchronizing the Left and Right Eye on page 72.

2 In the timeline, place the positioner over the two shots that you want to converge.

3 Display the Reposition menu.

4 Enable Convergence.

NOTE In the Preview window of the Reposition menu, the image reference (i.e., the blue rectangle) is for the assigned eye only.

5 Enable a reframing tool.

6 Use the Reposition sliders to converge the shots. The other eye will be offset in the equal and opposite manner.

Viewing Stereoscopic Footage in Dual View

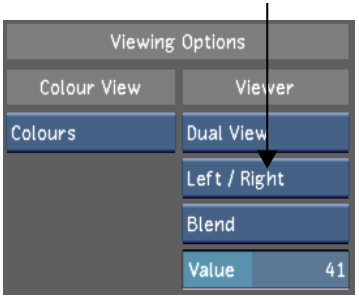
Once a stereoscopic project is enabled, you can display each eye at the current frame at the same time in Dual View mode. As in A/B mode, you can view the images side by side (2-up mode), or a portion of each image in the same viewer (Vertical Wipe and Horizontal Wipe modes).

In a stereoscopic project, you can also view the Left Eye overlaid on the Right Eye, as a blended image.

To display the Dual View Blend mode:

1 Display the dual viewer. See Using Dual View on page 61.

2 In the Dual View Display option box, select Left/Right.



3 Do one of the following:

- Select Blend.
- Press **Ctrl+F4** to cycle through display options until Blend is displayed. The viewer displays the image of the Right Eye overlaid over the Left Eye.

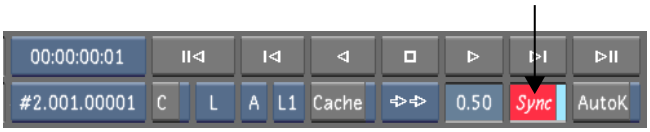
4 Set the Value slider to determine the percentage of opacity of the image in the Left Eye.

Synchronizing the Left and Right Eye

Since the Player only displays either the Left Eye or Right Eye layer, it is difficult and tedious to edit and grade one layer and create the same changes for the other layer. An easy way for you to make sure any editing or grading is automatically applied from one eye to the other is by using the Sync option. When this feature is enabled, any editing or grading you do on one layer is applied to the other.

To apply the editing and grading from one layer to the other:

➤ Fromthe Player display controls, click Sync.



Now all editing and grading operations on one layer will be duplicated on the other.

The Sync option only works if you do not break the sync. For example, if you enable Sync and draw a geometry, whatever you do to that geometry on one eye will be duplicated on the other. The moment you disable the Sync option and change the geometry on one layer (e.g., colour, position, vertex, etc.), that geometry will never be synced again when you re-enable Sync.

NOTE If you only break sync with the colour grading, the rest of the geometry (i.e., position, vertex, etc.) will still be in sync once you re-enable the Sync option.

When you re-enable Sync mode, the grading data that was applied separately on each eye will be retained on each eye. Re-enabling Sync mode will not copy the grading back to the other eye.

Grading Stereoscopic Footage

When Sync mode is enabled, grading operations (including dragging and dropping) are applied to the respective destination eye. For example, grading data dragged from a Right Eye layer is always applied to a Right Eye destination layer, even if it is dropped on the Left Eye. See Synchronizing the Left and Right Eye on page 72.

Shots can still be graded separately when Sync mode is disabled. After grading one eye, grading data can be copied to the other eye. Separate grading can also be used to differentiate the grades on each eye.

During secondary colour grading, you can copy different grading data for each eye at the same time from one secondary layer to another, and the grading data for each eye that was applied when Sync mode was disabled will be copied to appropriate eyes.

Working with Grade Files

In a stereoscopic project, grade files contain data for both the Left Eye and Right Eye.

In the Grade bin, each storage container can include Left Eye and Right Eye grading data. The thumbnail of the grade corresponds to the currently assigned eye. In the Grade view, the expanded Grade bin and its player demonstrate the same behaviour. See Using Grade Bins on page 39 and Using the Expanded Grade Bin on page 48.

Disable Sync mode to apply data from a grade file to only the assigned eye: only the grade data for the current eye will be applied. When Sync mode is on, data from a grade file is applied to both eyes: if the grades are different for each eye, each grade is applied to the appropriate eye. See Synchronizing the Left and Right Eye on page 72.

Bypassing Menu Parameters of an Eye

You can use the Bypass button to view the original shot of one eye or both eyes.

Bypass results depend on the state of the Sync mode. See Synchronizing the Left and Right Eye on page 72.

Set:	To:
Sync mode on	Display the original state of shots on the Left and Right Eye.
Sync mode off	Display the original state of shots on the assigned eye.

Working with Stereoscopic Projects

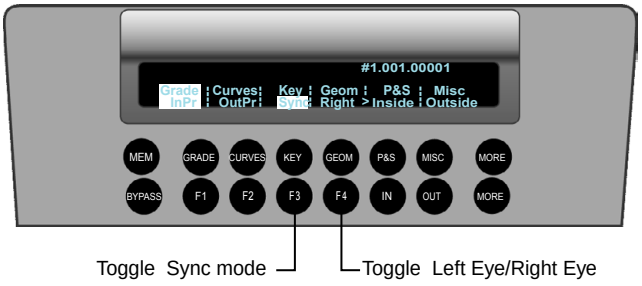
The Autodesk Control Surface panel accommodates common stereoscopic workflow operations. You must be in the Colour Grading or P&S menu to use these controls.

Using the Navigation panel, you can change the Sync mode state. You can also switch between the Left Eye and Right Eye.

When you are in Sync mode, you can use the Function panel to toggle the Convergence tool. See Repositioning Shots on page 75.

To adjust stereoscopic features in the Navigation panel:

1 In the Navigation panel, enable the Grade or P&S menu.



2 You can use the following controls.

Press:	To:
F3	Toggle Sync mode.
F4	Toggle the assigned eye.

The Sync mode state and the assigned eye are displayed in the digital displays of the Navigation panel and Colour Grading panel. When Sync mode is enabled, the “L+R” appears in the digital display to indicate that grading affects both eyes.

Repositioning Shots

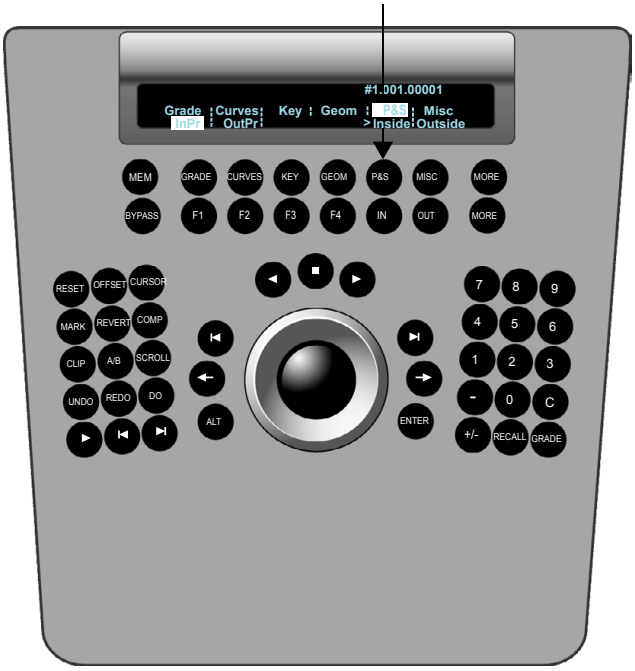
You can reposition a shot by:

- Scaling
- Panning vertically and horizontally
- Rotating
- Changing the aspect ratio
- Flipping and flopping

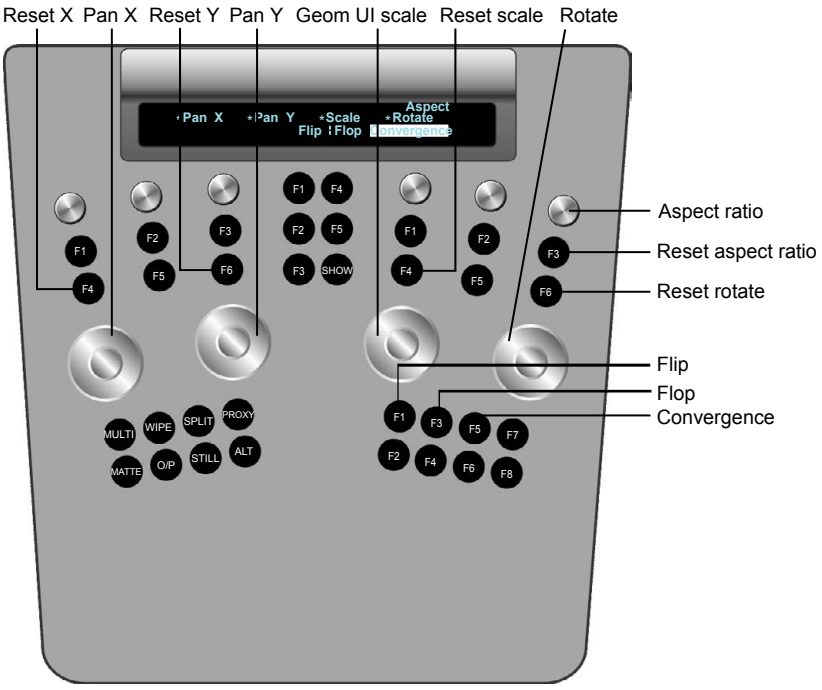
When Sync mode is enabled in a stereoscopic project, you can use the Convergence tool to pan and scale both eyes at the same time in opposite directions.

To reposition a shot:

1 Press the P&S button on the Navigation panel.



2 On the Function panel, use the following controls.



Use:	To:
Wheels	Reposition the image. Wheel 1=Pan X Wheel 2=Pan Y Wheel 3=Scale Wheel 4=Rotate To reset a wheel, press the button above it.
Knob at right	Change the image's aspect ratio. To reset, press the button below it.
First row of buttons at bottom right	Flip or flop the image. F1=Flip F3=Flop Toggle the state of the Convergence Tool. F5=Toggle Convergence
SHOW button	Toggle the geometry wireframe on or off.