

User Manual

Silverstack



Silverstack Version 6.5

POMFORT^{fn}

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Clip Library

User Interface Overview

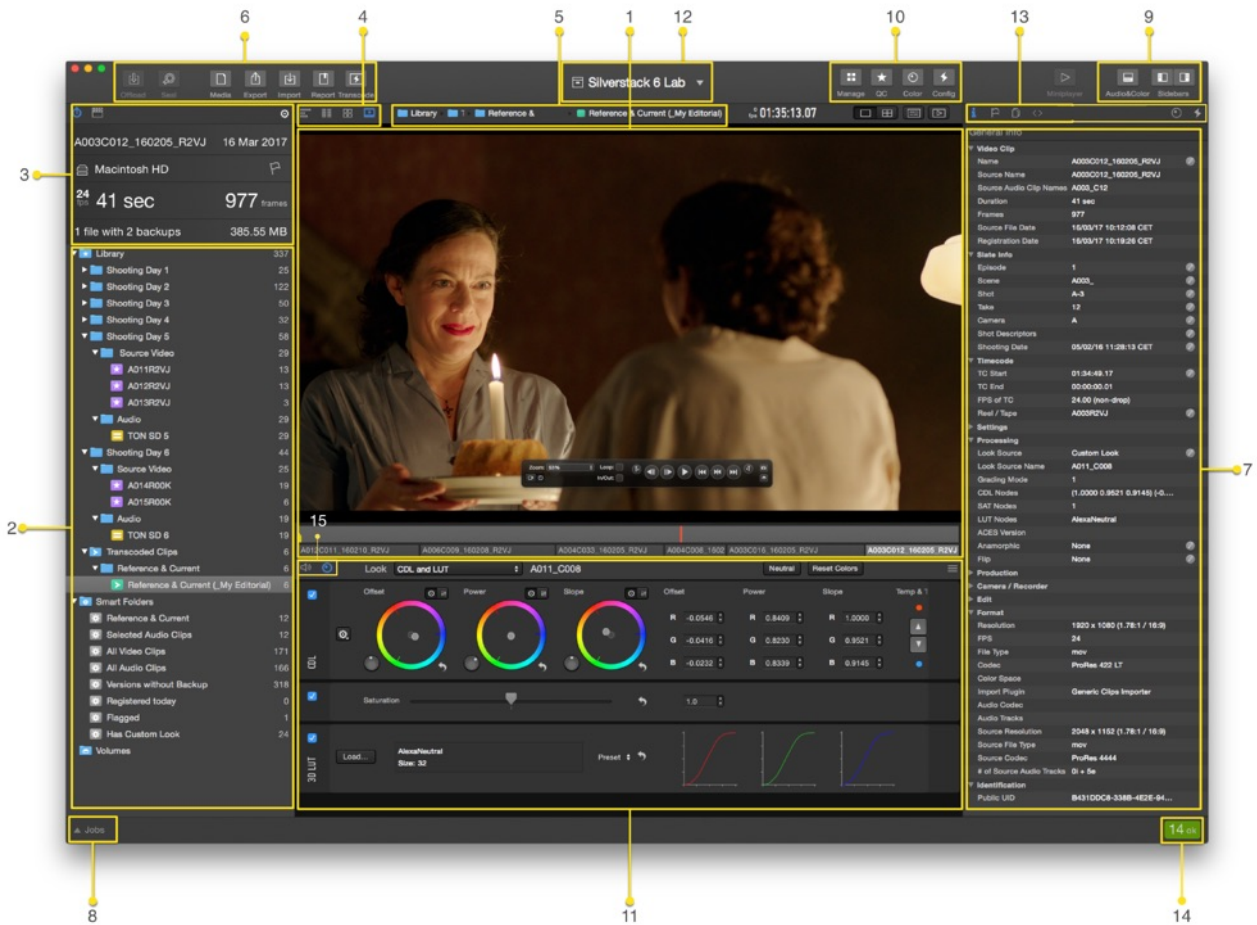


figure 1: User Interface overview

1 Video Preview

2 Library Panel

3 Info Display: it provides the most important information of the selected clip and cannot be edited. It contains two different view parameters: one for the Digital Image Technician and another one with relevant information for the Data Wrangler.

4 Switch between View modes like Summary, Table, Collection, Playback.

- **Table view** (figure 2 #1): useful for sorting and grouping clips by certain criteria. It is also a great way to get an overview of the various [metadata](#) of a set of clips. Some of the fields are editable and you can jump from field to field by pressing the TAB key. Here you can also load and save custom view presets which are the foundation of your clip reports
- **Collection view** (figure 2 #2): it gives you a visual overview over the clips in your library.



figure 2: view modes in Silverstack

5 Navigation through your Projects, Jobs, Volumes, Folders and Bins with bread crumbs. This feature is specially



useful when you hide your library view and clip information view.

6 Action wizards in Toolbar are [Offload](#), [Seal](#), Media, Export, Import, [Report](#), [Transcode](#):

- **Offload:** Choose a source to offload it in your library
- **Seal:** seal drives for subsequent workflow steps.
- **Media:** Backup or Relink files from your library
- **Export:** export metadata files to use in editorial and post production.
- **Import:** import metadata and match it to the clips from different sources.
- **Report:** Create or print various report types in the Report Center
- **Transcode:** create derivatives from your clips in a more manageable format.

7 Clip information for supported advanced camera formats.

8 Jobs panel: Job or Copy Status, like successful or failed copy jobs, duration and file destination. More information in the article Managing Jobs.

9 Toggle View Controls to hide or show the **Library** panel, the **Grading Controls**, **Audio Controls** panel and the **Clip Info** panel to have more work space for example on small laptop screens.

10 Work spaces such as **Manage**, **QC**, **Color** and **Config** to speed up specific tasks.

11 Grading Controls.

12 Project Library selection switcher. It displays the name of the current project.

13 Toggle between Clip information, User Information, File Resources, Clip Header, Look Library and Transcoding configurations.

14 Successful/Failed jobs count.

15 Switch between the audio and the grading panel in the lower “**Audio&Color**” section.

Collection View – Icon explanations



figure 3: Clip icon

- 1 Indicates the number of connected storage devices concerning this clip’s storage locations. The number colored in red shows the number of missing sources.
- 2 The clip name and duration. If the clip has been labeled, this part is colored.
- 3 Indicates that this clip is marked with a flag and can be searched and filtered for this criterion.
- 4 Description of the ingest date and time.

The Clip Library: Bins, Folders, Smart Folders and Volumes



Library	343
Shooting Day 1	25
Shooting Day 2	122
Shooting Day 3	50
Shooting Day 4	32
Shooting Day 5	58
Source Video	29
A011R2VJ	13
A012R2VJ	13
A013R2VJ	3
Audio	29
SOUND SD 5	29
Shooting Day 6	44
Transcoded Clips	12
Reference & Current	12
Reference & Current (_My Edit...	12

figure 1: The library panel part 1

Shooting Day 5	58
Source Video	29
A011R2VJ	13
A012R2VJ	13
A013R2VJ	3
Audio	29
SOUND SD 5	29
Shooting Day 6	44
Transcoded Clips	12
Reference & Current	12
Reference & Current (_My Edit...	12
Smart Folders	
Reference & Current	18
Selected Audio Clips	12
All Video Clips	177
All Audio Clips	166
Versions without Backup	264
Registered today	0
Flagged	1
Has Custom Look	25
Volumes	

figure 2: The Library panel part 2

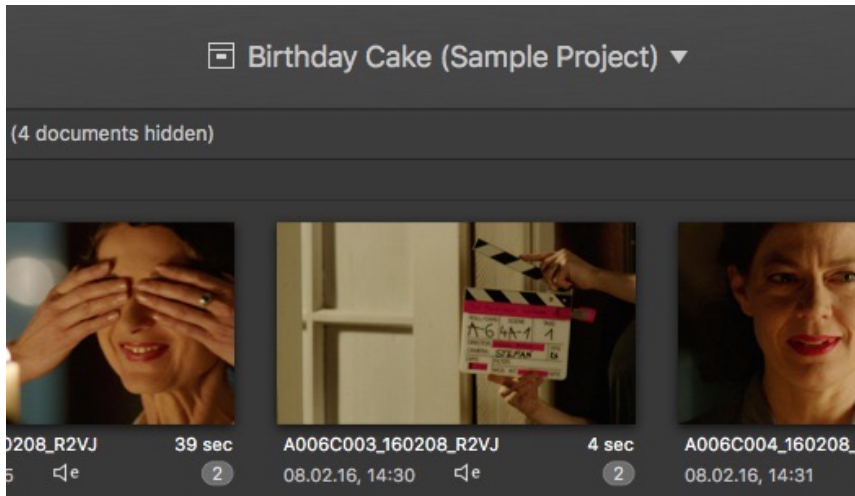
The basic building blocks of the Silverstack library are projects, bins and folders. Every project you create in Silverstack contains by default different kinds of “*Smart Folders*” and a “*Volumes*” sub-item. Based on that you can add an unlimited number of folders, bins and smart folders by right-clicking on any item of the project tree.

Project

A “*Project*” groups all information and data of a single project. In Silverstack all clips, jobs, volumes and

destinations are assigned to one project. It may additionally contain information like the producer, name of the DIT or a production logo, which you can edit in the Statistics overview of the selected project.

The number behind every element of your project tree indicates the number of versions it contains, whereby duplicates are not counted. The number behind your “Project” item indicates the number of versions contained by it, with only counting one version of each referred clip.



Bin

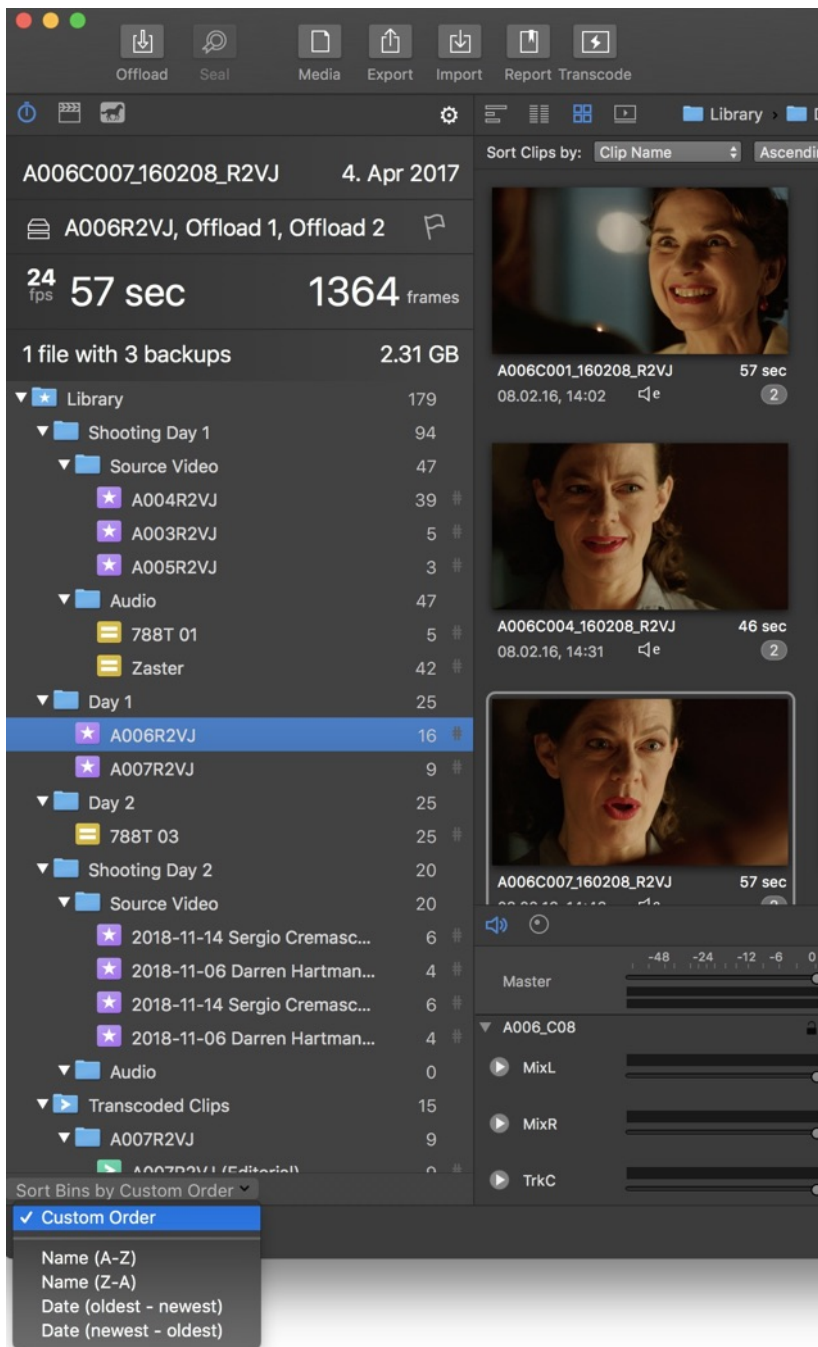
A bin contains clip versions, but no other bins or folders. It is the smallest container unit in Silverstack. Bins are the only element to contain versions directly, folders and projects only group a set of bins.

There are two different types of Bins:

- Video Bins:  A006R2VJ 16 #
- Audio Bins:  788T 03 25 #

Sorting of Bins & Folders

You can organize the library by dragging and dropping bins and folders in a custom order or selecting a certain criteria to sort them by:



The bin sorting options in detail:

- **Custom Order:** Reflects and stores the custom order the user created with drag & drop.
- **Name (A-Z):** Sorts bins and folders by Name from top to bottom from 0 to Z.
- **Name (Z-A):** Sorts bins and folders by Name from top to bottom from Z to 0.
- **Date (oldest – newest):** Sorts bins and folders by creation date, oldest date first, newest date last.
- **Date (newest – oldest):** Sorts bins and folders by creation date, newest date first, oldest date last.

Folders stay on top. Audio bins are automatically sorted separately at the bottom of video bins.

Folder

Folders are used to create logical project structures like shooting days. A folder can contain bins and other folders but not clips directly since clips always have to be enclosed by a bin.

Folder structure can easily be duplicated by choosing “**Duplicate Folder Structure**” from the context menu:

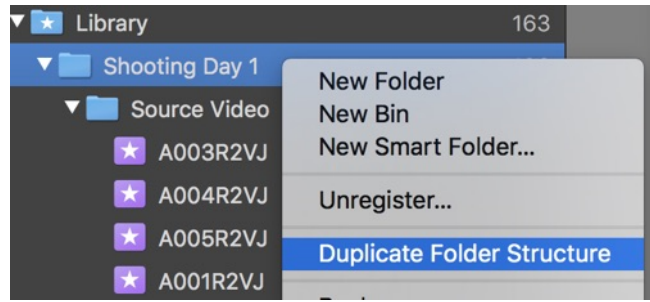


Fig. 3: Duplicating the folder structure of a folder

Smart Folder

Additionally there is an element called “*Smart Folders*” in the Silverstack library, which describes a folder with integrated filtering function. Using smart folders you can find clips with a certain attribute in the dedicated project very easily. The default smart folders filter the library for clips without backups, with a high rating, a flagging or clips that are registered today. For a closer look to the smart folder section go to the [Working with smart folders](#) article.

Volumes

By selecting “*Volumes*”, Silverstack outlines all used storage devices and their according information. You can also reveal the files in the finder by clicking the reveal button. Additional information about your volumes can be found in the right sided panel. There you have the possibility to make comments, eject the volume, get the status of your free disk space print a volume report or give your hard-drive a playback priority.

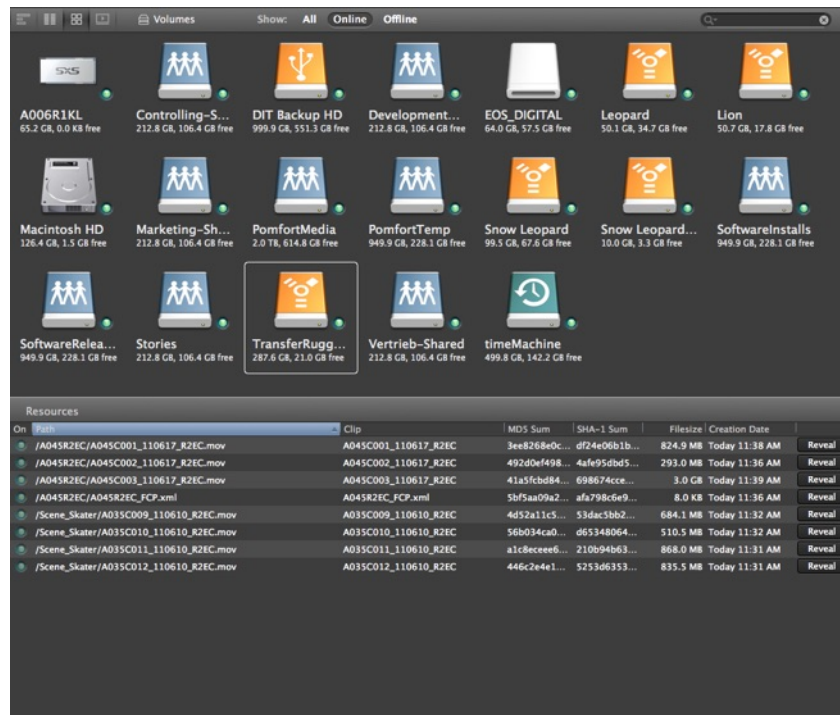


figure 4: The Silverstack “Volumes” window

The Information Panel

The Information Panel displays all the information (metadata) embedded in your clips. It consists mostly of editable and some read-only fields (not editable). You can edit the fields marked with a small «pencil» icon, as well as flags, ratings, labels and cue points.

By editing and adding your own information to the clips you can simplify managing tasks like searching clips, varying the shown clip order or filter the library for clips with a certain attribute, which you can do by using [smart folders](#).

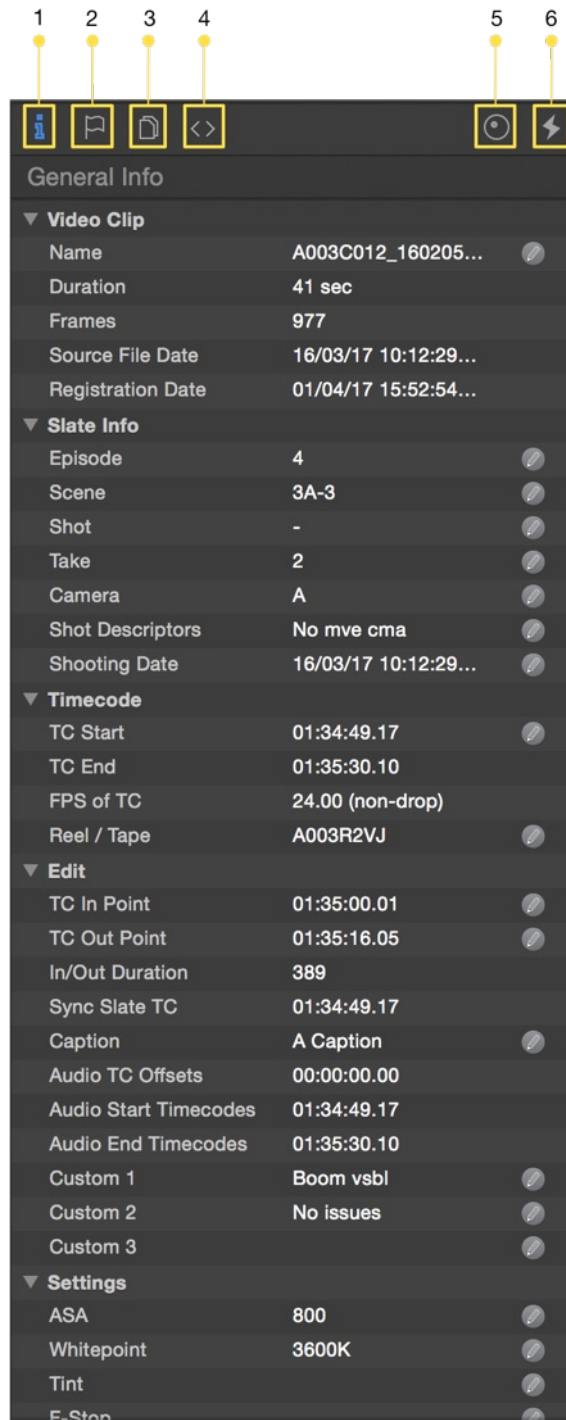


Fig. 1: The information panel

The Tabs

The information panel is subdivided into six tabs: General Info, User, File, Header, Look Library and Transcoding.

1 General tab: It encloses the clip information extracted from the metadata like the timecode, exposure, production info, camera and format information. Additionally, there are some tips for a faster metadata editing available in the article [Tips & Tricks: Quick metadata editing](#). You can also apply [Image transformations](#) like anamorphic de-squeezing and image flipping. You can edit the fields marked with a small «pencil» icon.

2 User tab: It is fully editable. There you can set the camera letter, edit scene shot and take metadata, flag, rate and label the selected clip. Besides, you can add a comment and cue points to it.

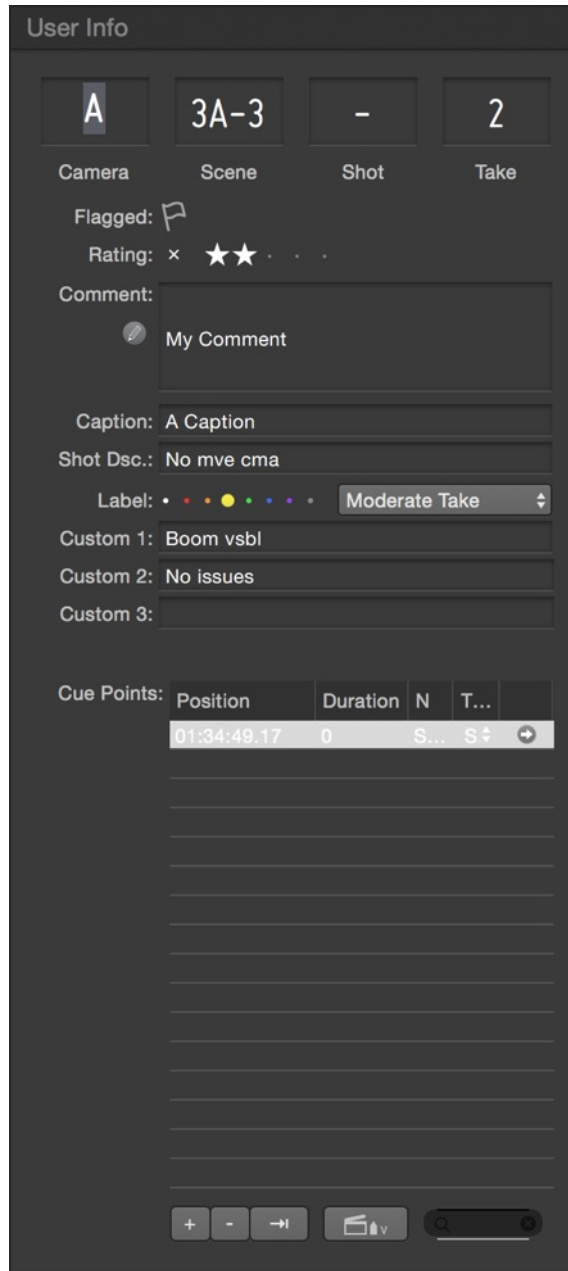


figure 2: User Information panel

3 File tab: The “File” tab provides you an overview of all file resources of the selected clip.

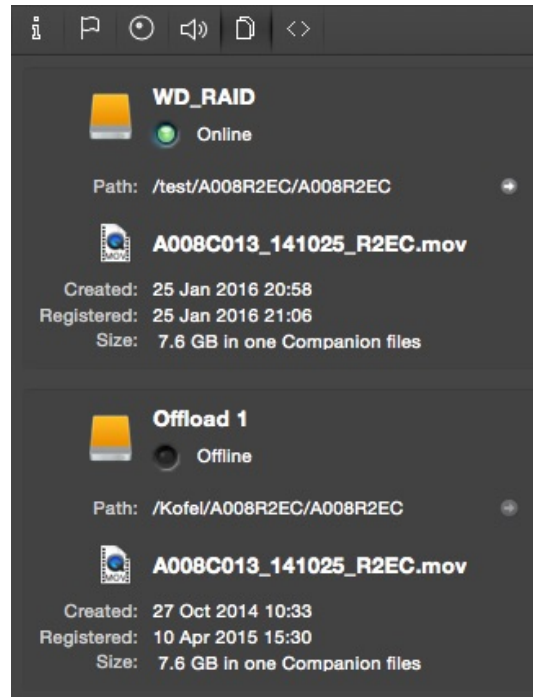


figure 3: the File tab

4 Header tab: The “Header” tab contains read-only detailed technical information metadata—in a raw format—of the selected clip.

5 Look Library tab: Silverstack enables you to manage looks within Silverstack in a look library in order to keep a proper overview of all the looks in your project. The look library allows you to store new looks, edit their metadata, apply looks to one or multiple clips, as well as to import looks from LiveGrade. For more information, please check the article [The Silverstack Look Library](#).

6 Transcoding tab: Silverstack allows to manage transcoding configurations and their transcoding settings in the Transcoding tab. A transcoding preview of the current image is automatically shown in the player view when the transcoding tab is opened. For more information about the transcoding tab and transcoding in Silverstack please read the article [Transcoding in Silverstack](#).

Assets in Silverstack

Assets in Silverstack can be video clips (e.g. an Alexa or RED media file), audio clips (WAV), sidecar files accompanying clips (for example XML or RMD files), or any other document such as photos or even a PDF. However, not all media files are recognized as clips by Silverstack. In that case we are talking about [Generic file formats](#).

Advanced Camera Support

Silverstack provides advanced support for a wide range of camera formats, which maximizes the efficiency of relevant on-set tasks such as playback, metadata management, color grading, quality control and more.

The supported Advanced Camera Formats are:

- ARRIRAW (.ari and .mxf) **:
 - ARRI Alexa (.ari)
 - ARRI Alexa Mini (.mxf)
 - ARRI Amira (.mxf)
 - ARRI Alexa 65 (.ari)
 - ARRI Alexa LF (.ari)
- ARRIRAW CODEX HDE (High Density Encoding) (.arx)**
- Blackmagic RAW (.braw) **:
 - Blackmagic URSA Mini Pro & 4.6K
- Canon XF Movies **:
 - Canon C300 MK I & II
 - Canon C500



- Canon C700
- Canon C200
- Canon XF-HEVC **
 - Canon XF705
- Canon MPEG-4 AVC/H.264 (.mts)**
 - Canon C100
- Canon Cinema RAW Light (.crm):
 - Canon C200 and C200B
- Canon Uncompressed RAW (.rmf) [Silverstack XT and Lab only]:
 - Canon C700 and C700 FF
 - Canon C300 Mk II
- CinemaDNG (.dng):
 - BMCC
 - Bolex D16 **
 - Ikonoskop
 - IndieCam
- Generic Image Sequences:
 - JPG
 - TIFF
 - DPX
- H.264 Quicktime Movies:
 - Canon DSLR **
 - GoPro Hero **
 - Nikon DSLR **
- KineRAW (.krw) [Silverstack XT and Lab only]:
 - Kinefinity TERRA 4K / 5K / 6K
 - Kinefinity KineMINI 4K
 - Kinefinity KineMAX 6K
- Panasonic DNG RAW [Silverstack XT and Lab only]:
 - Panasonic Varicam LT (with Convergent Design Odyssey7Q+)
 - DJI Inspire and Zenmuse Series
- Panasonic AVC-Intra **:
 - Panasonic Varicam
- Panasonic V-RAW [Silverstack XT and Lab only]:
 - Panasonic Varicam
- Phantom Cine Vision Research (.cine) [Silverstack XT and Lab only]:
 - Phantom Flex/Flex4K/Miro/VEO
- ProRes Quicktime Movies ** (.mov):
 - AJA KiPro
 - ARRI Alexa / Alexa Mini **
 - ARRI Amira **
 - ARRI Alexa LF **
 - RED cameras **
 - Panasonic Varicam **
 - Atomos Ninja and Samurai
 - Codex Action Cam
 - Convergent Design Odyssey
 - DJI Inspire and Zenmuse Series
- REDCODE ** (.red):
 - Red Weapon Monstro 8K VV , Red Weapon Helium 8K S35 , Red Weapon Dragon 6K
 - Red Raven 4.5K
 - Red Scarlet-X , Scarlet Dragon , Scarlet-W 5K
 - Red Epic-X , Epic Dragon , Epic-W 8K
 - Red One , Red One MX
- SONY RAW** [Silverstack XT and Lab only]:
 - Sony F5
 - Sony F55
 - Sony F65
 - Sony Venice
- X-OCN LT**, X-OCN ST**, X-OCN XT ** [Silverstack XT and Lab only]:
 - Sony F5 (with AXS-R7 recorder)
 - Sony F55 (with AXS-R7 recorder)
 - Sony Venice (with AXS-R7 recorder)
- XAVC **:

- Sony F5
- Sony F55
- Sony Venice
- XAVC-S **:
 - Sony a7S

Furthermore Silverstack offers extensive support for broadcast wave (BWF) audio wave files (.wav). Learn more in the article [Audio Clips in Silverstack](#).

** with audio support

Working with Smart Folders

In the Silverstack library you find an element called “*Smart Folders*” below the camera rolls section. Smart folders provide the opportunity to filter all your clips for certain metadata information. Using smart folders you can find clips with a certain attribute in the dedicated project very easily.

The default smart folders filter the library for clips without backups, with a high rating, a flagging or clips that are registered today.

Create a new Smart Folder

You can create Smart Folders with an individually set filter in the “*Add*” wizard menu in the bottom left corner of your Silverstack window. By creating a new Smart Folder the panel you can see in figure 2 will appear.

Name the folder and set the rules by which the Smart Folder will add video clips. You do this by applying filters which you can add and delete by the “+” and “-” buttons (figure 1 #1). For each filter you can choose the kind of metadata information (figure 1 #2), a filter mode (figure 1 #3) and enter specified information (figure 1 #4) for which the video clips will be filtered. Additionally you can decide if any, all or none (figure 1 #5) of this filtering criteria have to be fulfilled by a clip which then will be added to this Smart Folder .

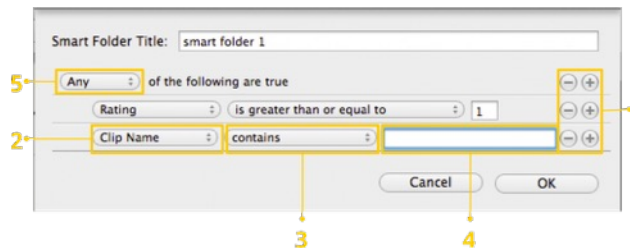


figure 1: Panel for creating a new smart folder in the Silverstack library

Filter attributes

For the below mentioned attributes you have to type characters into the text field (figure 1 #4) to get a result. If you leave the text field empty, no video clips will be filtered out – even if the according attribute field of video clips may be empty.

- Clip Name
- Version
- Comment
- Scene
- Shot
- Take

- Camera
- Reel Name
- File Type
- Codec
- Look Name
- Bin Name

If you want to filter clips for a date, you can select: today, yesterday, one week ago or any specific date.

- Registration Date
- Shooting Date



For the below listed attributes you have to enter a number in the text field (figure 1 #4) for getting a result. If you leave the text field empty, there will be no video clips filtered – even if the according attribute-field of some clips is empty.

- Number of Frames
- Pixel Width
- Pixel Height
- Rating
- ASA
- Number of File Representations
- Number of Cue Points
- Playable
- Missing
- Frames per Second
- F-Stop
- Whitepoint
- Sensor Fps
- Fps of TC
- In/ Out
- In Point
- Out Point
- Flag: You can choose between flagged/ not flagged
- Label: You can choose any of the provided labels.
- Colorspace: With the colorspace attribute you can filter video clips which are recorded in the Rec.709, LogC (with or without Film Style Matrix), Dci P3, Cinestyle, SLog
- Volume Name: all the clips with a copy/backup in the specified volume or volumes will be shown in the smart folder.

Note:

- Besides creating a new smart folder you can edit existing ones by right-clicking on the relevant smart folder and choosing “Edit...” from the drop-down menu.
- A nice feature is furthermore the possibility to create a new bin that contains the video clips which are included in the current smart folder. Therefore right-click on the relevant smart folder and choose “New Bin from Smart Folder”.

Choosing Custom Thumbnail Images

Silverstack offers a flexible way to experience a great asset preview of your projects, bins, folder and camera rolls. We incorporated a feature allowing you to define your own thumbnails to get a better oversight of your shots – scenes – takes and gives you the opportunity to navigate faster inside your library and locate clips with one click.

Usual behavior

By default, Silverstack analyzes the length of a clip and picks the thumbnail image from the middle of the take. You can customize the default behavior in the preference menu. The thumbnail position can be set to “Begin”, “Middle” and “End” of a clip. If you want to recreate your thumbnails you can do so by making an asset selection and then click in the “Edit” menu “Recreate Thumbnails”. All selected assets thumbnails will be recreated.

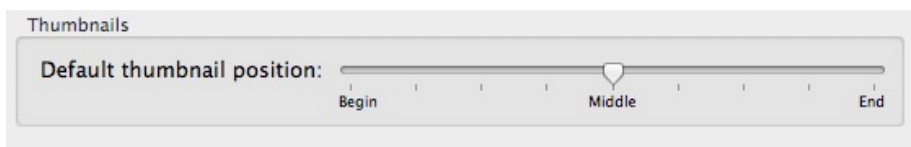


Figure 1 : “Preferences for default thumbnails”

While this is suitable for most occasions, it might happen that the preferences of the clip is by coincidence a black frame, a meaningless moment like blue sky or a frame that is not in focus which won't help you to identify the right take from the table view, collection view or neither in the reports.

Customize your clip thumbnails

To [customize your reports](#) or Table/Clip View with a thumbnail that matches your criteria as a DIT simply mark the clip and switch into the Playback View to locate the right frame. From there you can scrub to the desired frame and set your thumbnail via the Main Menu entry in “Edit” – “Set Thumbnail Frame”. You can alternatively use the

Shortcut **⌘ + T** to set the thumbnail.



Figure 2: “Switch to Playback View”

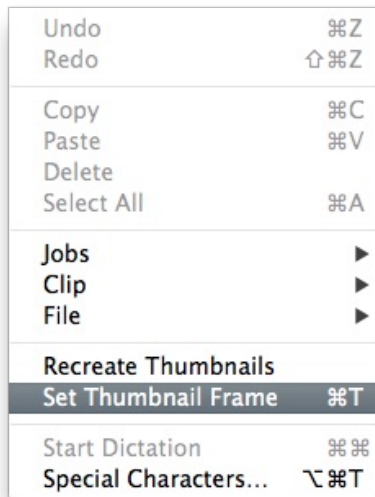


Figure 3: “Main Menu entry”

Note: You can only apply the ” Set Thumbnail” feature to Assets that have advanced playback support in Silverstack. You can find more information about assets in [this article](#).

Warning: If you recreate thumbnails with the function in the “Edit” menu all the previous thumbnail images will be erased and replaced with the actual setting of the preference.

The Copy and Verification Process in Silverstack: Verification Behavior

Silverstack 6.4 and later differentiates two basic types of verification behavior:

- **Included in Copy Job:**
 - Verification executed file per file
 - *(One Job that copies and verifies [copying file 1, verifying file 1, copying file 2, verifying file 2])*
- **Separate (per Job):**
 - Copy all files first in a distinct job and verify them afterwards in another job
 - *(Copy Job [copying file 1, copying file 2], Verify Job [verifying file 1, verifying file 2]).*

This leads to several improvements for the transparency of the copy and verification process in Silverstack that are outlined in this article.

The Verification Behavior in Detail

Included in Copy Job

The default verification behavior contains reduced options for the user. It is referred to as “**Included in Copy Job**” as the verification process happens file per file.

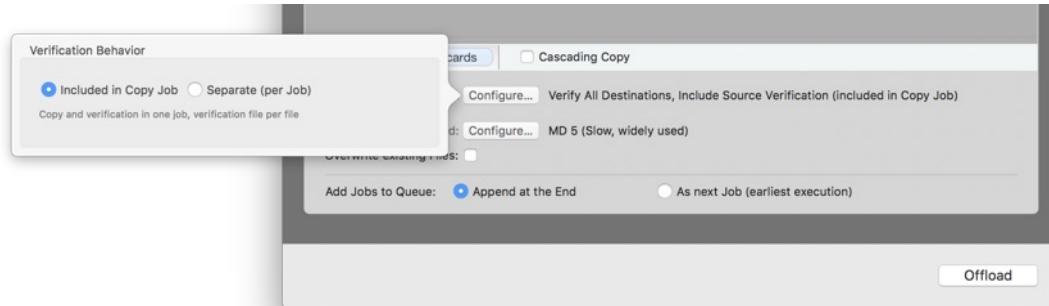


Fig.1: Verification behavior “Included in Copy Job”

It always verifies all destinations and the source (“Verify All Destinations, Include Source Verification”), therefore reduces options and makes sure the highest possible security is maintained.

Here are the facts in an overview:

- **Verification Behavior:** Included in Copy Job
- **Verification Coverage:** All destinations, with source
- **Available Checksum Methods:** xxHash64 (BE), MD 5, SHA 1

Separate (per Job)

The advanced verification behavior “Separate (per Job)” allows to complete the copy of all files first and verify them later. It is referred to as “Separate (per Job)” as it creates a separate copy and verify job.

Using the “**Separate (per Job)**” verification behavior, there are multiple options to choose from for the verification coverage. The verification coverage refers to the extent of verification that is performed.

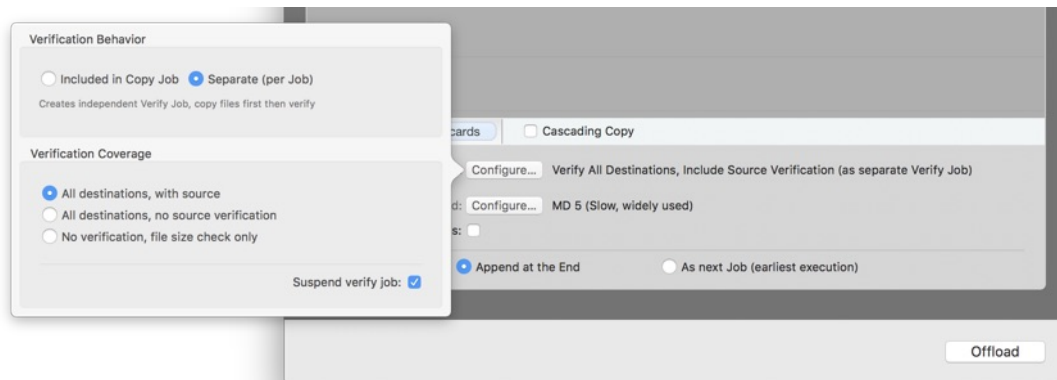


Fig.2: The offload wizard options for the verification coverage when verification behavior “Separate (per Job)” is selected

The following options are provided for the verification coverage (refer to fig. 2):

- **All destinations, with source (default)**
 - **Abstract:** Highest possible security.
 - The verify job verifies all copy destinations ...
 - ... and also the copy source.
- **All destinations, no source verification**
 - **Abstract:** Still secure for destinations, but neglects the detection of source problems possible with “Source Verification”.
 - The verify job verifies all copy destinations...
 - but does not verify the copy source.



- **No verification, file size check only**

- **Abstract:** *No security, use with care! Only the size of copied files on destination is checked against the original.*
- No verify job is created. File size check is performed with copy job.
- Even if it will not be verified, Silverstack creates a checksum during the copy process that is stored in the library. Checksum Method is fixed to xxHash to avoid limiting copy speed e.g. using MD 5 as checksum method.

Suspend Verify Job

The first two selections for verification coverage have an additional option to suspend the created verify job (see also fig.2). This allows all other offload and copy jobs to be executed before the verification. The verify job suspends automatically once scheduled, and has to be resumed manually by the user.

About Source Verification

Learn more about “Source Verification” in the article [Checksum Verification Methods](#). “Source Verification” or “verifying the source” refers to the process of reading the source once more after the copy process end as part of the verification process. This is done additionally to reading the destinations again to verify their checksums. The intention to do this is to make sure that the checksum still matches the one created during the initial read of the file for the copy process to detect e.g. broken source cards. The verification of the destination remains untouched by this setting.

Cascading Copy

When enabling cascading copy the verification coverage as well as the checksum methods can be selected per run:

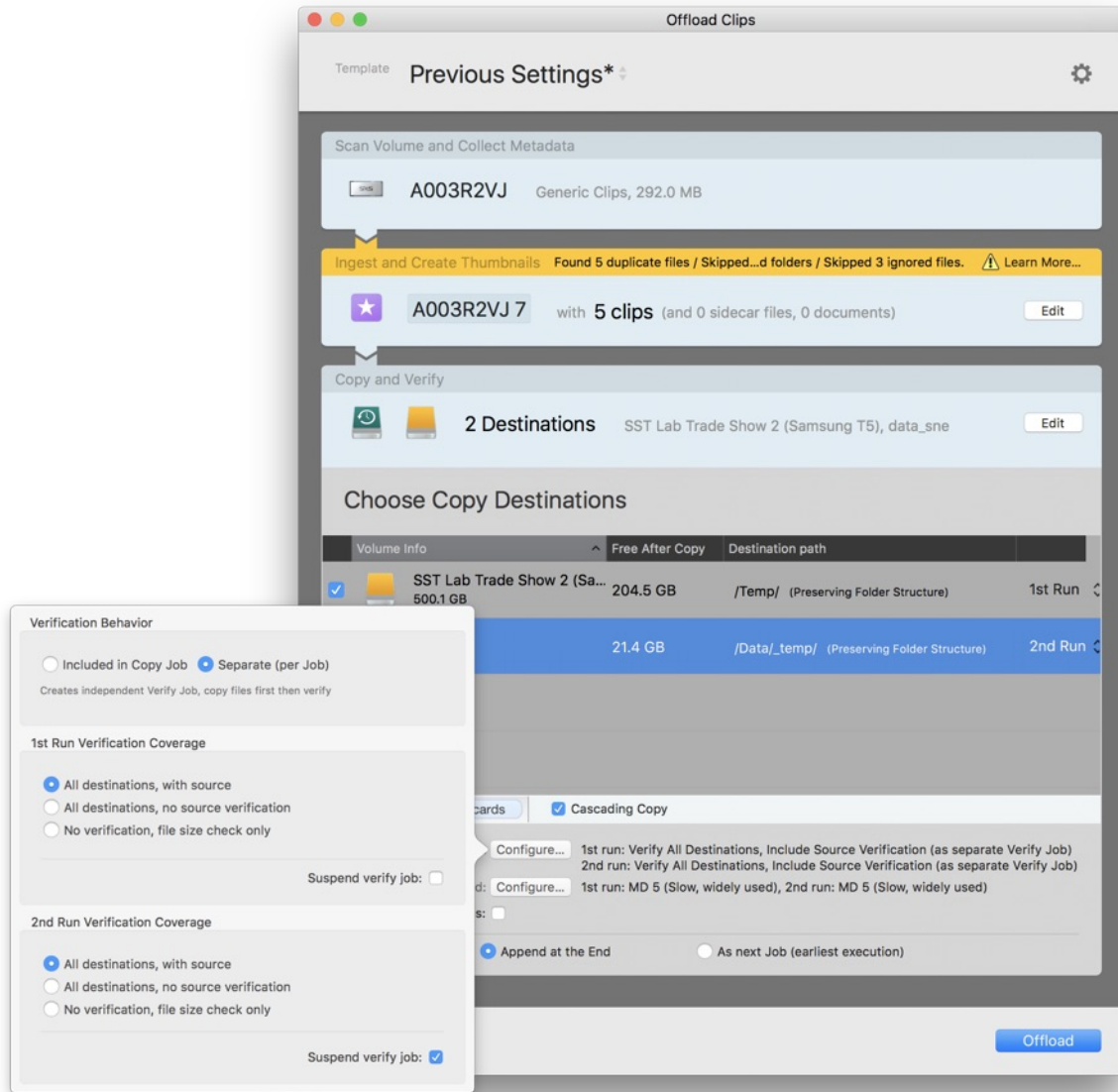


Fig. 3: Selecting the verification coverage for both runs with cascading copy

More information about cascading copy can be found in the article [Cascading Copy](#).

Additional Options

- **Overwrite existing files:** This option allows to overwrite already existing copies on the destination(s).
- **Skip Copy Step:** The option to skip the copy step and only ingest material has been removed in the Offload wizard to clearly separate the copy from the ingest functionality. To ingest material without copying use the “Add to Library...” entry in the “File” menu.

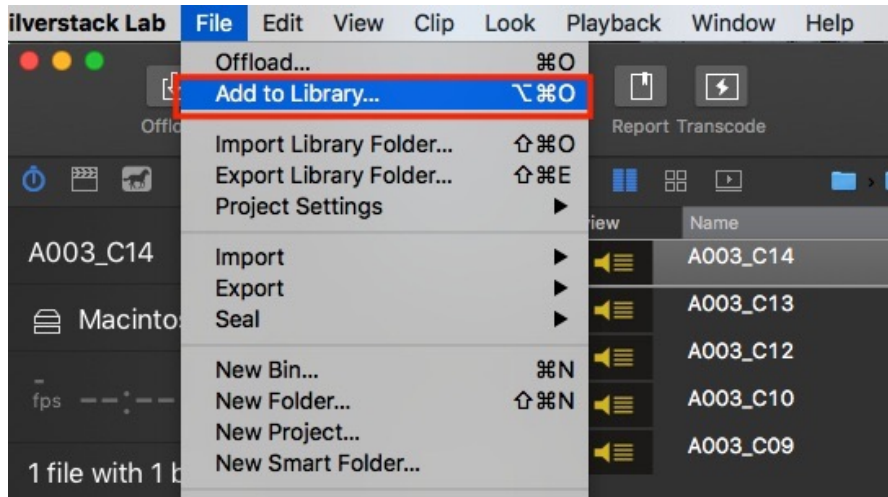


Fig. 4: Using the “Add to Library” option for ingest only

Job Scheduling Control

The Offload wizard allows to schedule jobs in the queue to be executed next, after the running job finishes. The default behavior, to add the job to the queue, will be restored after each copy job, as this is a hit and run choice before starting the jobs.

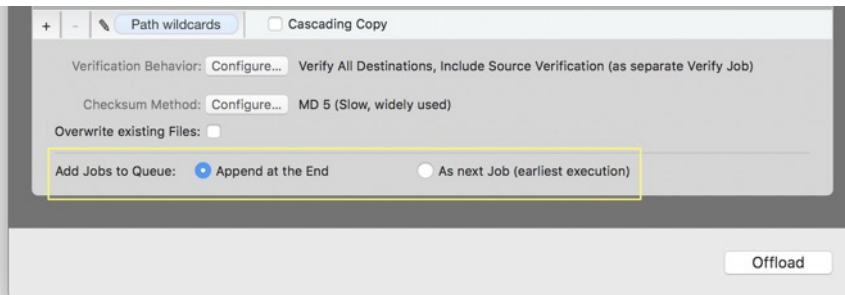


Fig.5: The job scheduling options

Learn more about reordering of jobs with drag & drop in the article [Reordering and Suspension of Jobs](#).




Verification States (for File Resources, Clips and Bins)

Since Silverstack 6.4 file resources (all registered file copies and the source) have a verification state that is displayed in the “File” tab of the right bar.

The verification state helps the user to identify the current verification status of the file resource of a clip. This is especially necessary with the possibility to copy files first and verify them later in a separate job: With verification states it is explicitly identifiable if the resource has been verified.

3 Verification States

A file resource can have 3 different verification states:

-  **Verified** (green)
-  **Defect** (red)
-  **Not Verified** (grey)

Here’s more details about the 3 states and what they mean:

- **Verified:** The hash of the destination file matches the hash created during the initial copy of the file. For source (source file resources) a green verified state means that they passed “Source Verification” (if enabled),



which means a second read and hash check of the source and comparison to the the initially created hash.

- **Defect:** The file resource has a different hash than the one created during the initial copy. This can be identified by any type of verification Silverstack performs (e.g. as part of a copy job or with a separate verify job).
- **Not Verified:** The file resource has not been verified. Silverstack did not attempt to do a verification due to settings of the user. This can be the case e.g. for the source file resource when “Source Verification” has been disabled, or for copy destinations when choosing to copy without verification (which we do not recommend).

You can learn more about how the Silverstack copy process works in the following article:


- [How does the copy process in Silverstack work?](#)
- [The Copy and Verification Process in Silverstack](#)

Verification States in the File Tab

The file resources in the file tab show the verification state per resource and as a summary for the clip:



Files & Hashes


 **A007C002_170728_R1KL**
Size: 5.56 GB (5.557.772.755 bytes)

MD5:
SHA1: c414d85370800d4f485c8de104cb...
xxlHash64:

Source & Backups

1 source, 2 backups
Verification incomplete: 1 unverified file resource(s)

Source


 **A007R1KL**

Folder: /A007R1KL
Filename: A007C002_17...L.mov (Offline)

Created: 28. Jul 2017, 08:30
Registered: 30. May 2018, 16:23
Last Verified: 30. May 2018, 16:24

Verification: **verified**

Backup


 **G-SPEED Shuttle TB3**

Folder: /A007R1KL Y5 [Ca...bled SV]/A007R1KL
Filename: A007C002_17...L.mov (Offline)

Created: 30. May 2018, 16:23
Registered: 30. May 2018, 16:24
Last Verified: 30. May 2018, 16:24

Verification: **verified**

Backup

 **WD HDD Shuttle Copy Dest**

Folder: /A007R1KL Y5 [Ca...bled SV]/A007R1KL
Filename: A007C002_17...L.mov (Offline)

Created: 30. May 2018, 16:26
Registered: 30. May 2018, 16:27
Last Verified:

Verification: **not verified**

Fig. 1: The file tab with verification indicators

We can see that the clip has 3 file resources:

- Source: Verified
- Backup 1: Verified
- Backup 2: Not Verified

The summary about the clip tells us that the verification is incomplete because at least 1 file resource is not verified.

We will take a closer look at this behavior in the next section.

Escalation of Verification States

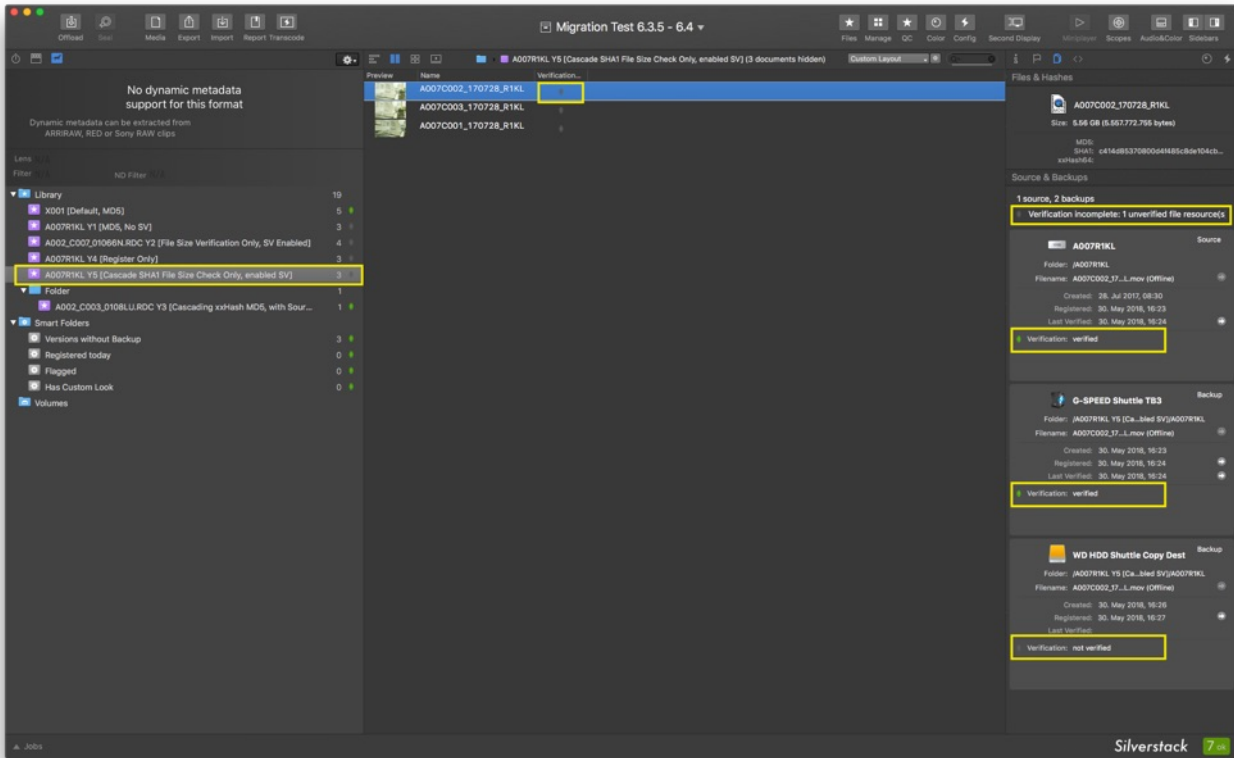


Fig. 2: Tracing the indicators from the bin to the file resource in the file tab

To make the user aware of the verification state of all clips resources already on a bin level, the verification state is escalated from the file resource to the library outline:

As multiple file resources can belong to a clips, a clip is inside a bin, and bins can be grouped in folders that can be ordered in the hierarchy inside the Library outline the following escalation is performed:

- **File Resource** verification state
 - *escalates to...*
- **Clip** verification state
 - *escalates to...*
- **Bin** verification state
 - *escalates to...*
- **Folder** verification state
 - *escalates to...*
- **Library** verification state

There's a clear hierarchy of severity of states that overrule and therefore define the state of the level above:

- **Defect**
 - overrules...
- **Not Verified**
 - overrules...
- **Verified**

Understanding both cascades will help you already identify folders and bins containing problematic clips. Using the verification state column (see fig. 2) you can trace the problem down from the bin to the file resource that might be defect or not verified.

Folders only show the verification state when collapsed to avoid confusion with containing states.

Running Jobs for Bins

Due to their nature, the verification state icons on bin level do not necessarily give meaningful feedback while copy jobs are running for the bin (as running copy jobs naturally lead to a change of the verification state). This is the case because new file resources are registered and verification processes are on the run.

To address this a “Running Jobs” indicator has been introduced. Installed in the library on bin level, it shows in form of a little progress bar and tells the user that this bin currently has jobs running in the background:



Fig. 3: The Running Jobs indicator in the library outline

Furthermore, the “running jobs” indicator for bins also brings other benefits such as e.g. already seeing on bin level if no job is running anymore for a bin and a report can be created with a steady state of the library.

Migration

Please be aware that library versions of Silverstack prior to the 6.4 update do not include information about verification states. Therefore a migration to 6.4 will place verification states based on the existing job information. You can verify resources based on the existing hash information afterwards at any time.

Also PSLAs (Pomfort Silverstack Library Archives) exported with 6.3 and earlier do not include information about jobs or verification states. Opened with 6.4 or later all file resources will receive an “unverified” state.

Unregister a Project from Silverstack

Unregister an old project

If you have several old projects in your library that you want to remove you can simply unregister them. All the clips/assets that are registered in the library will be removed.

Note: The files that are linked to the assets will stay on the Backup Volumes and will not be removed!

Steps to remove a project:

1. Open up Silverstack
2. Select the Project you want to remove from Project selector within the toolbar.

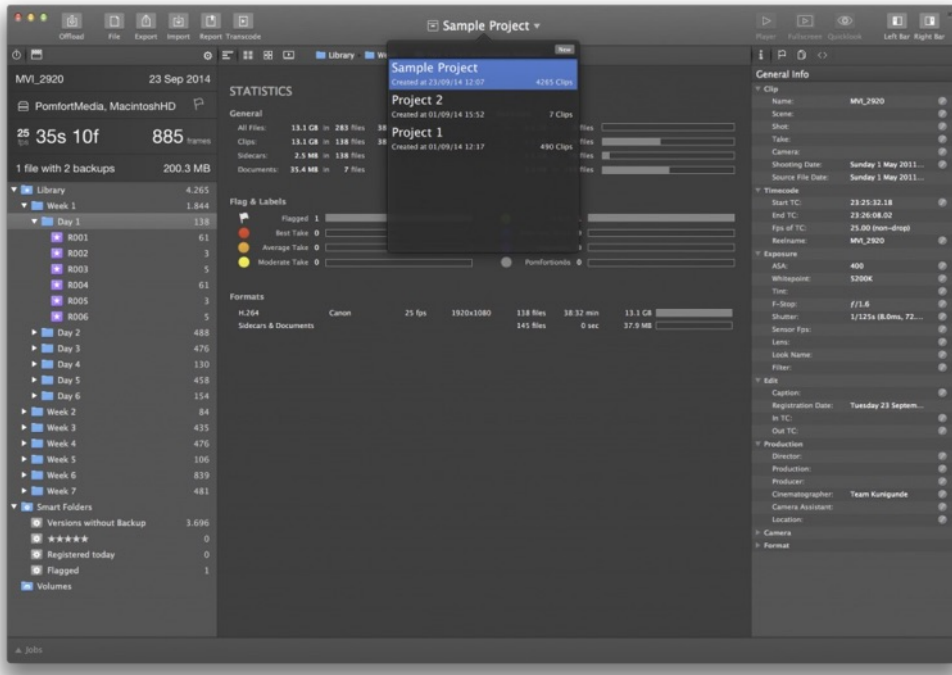


Figure 1: "Select a project from Toolbar"

3. Go to the Main Menu and press "Unregister Current Project"



Figure 2: "Unregister Project"

Silverstack will switch automatically to the next project. If there are no other projects within your library, Silverstack will automatically create a new one.

Library Metadata Exchange



figure 1: metadata exchange between workstations

Silverstack XT offers the possibility to exchange metadata between multiple workstations. This feature gives more

flexibility in scenarios where different Silverstack libraries are used along the production workflow: on set for fast and secure offloading, near set for metadata handling and in post production houses.

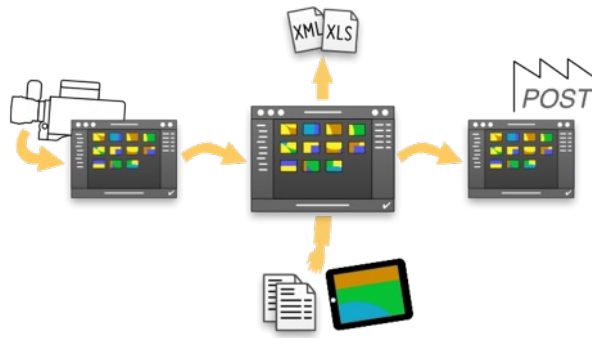


figure 2: Silverstack along the production workflow

Exporting library metadata

Whole libraries, folders or bins can be exported using this feature. To start the process, simply select the item from the Library Panel and click on Export>to Silverstack Library Archive (psla)...:

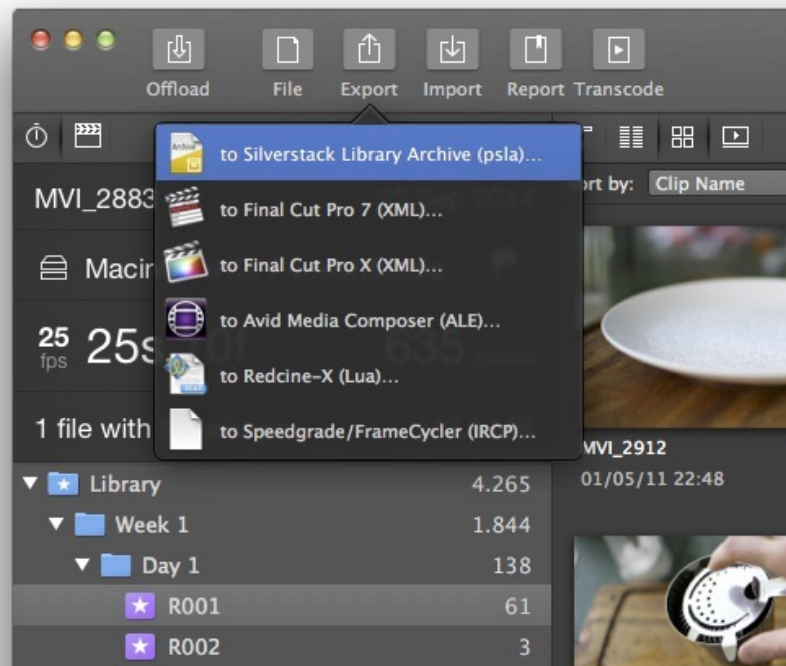


figure 3: export menu

The Library Export wizard will appear, letting you select again which library folder to export. In addition, you can add a comment to describe the metadata content of the file.

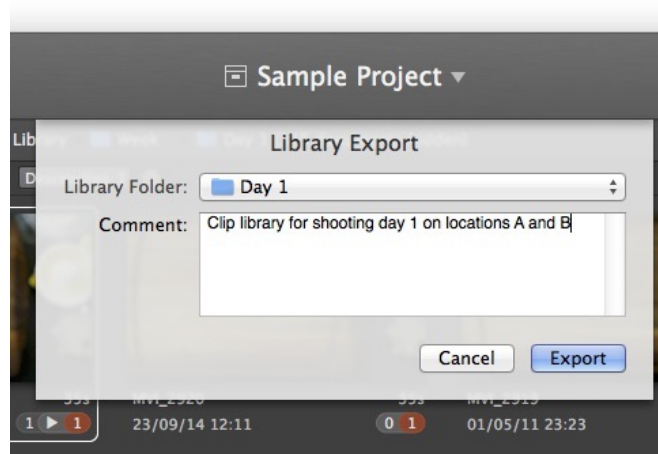


figure 4: library export wizard

After selecting «Export», a destination selection dialogue will be shown. Once the file has been saved, it should look like this:



figure 5: Silverstack library metadata file

Importing library metadata

In order to import metadata from the previous process into another computer, you can just double click the «Day 1.psla» file. Otherwise you can select Import>Silverstack Library Archive (psla)...:

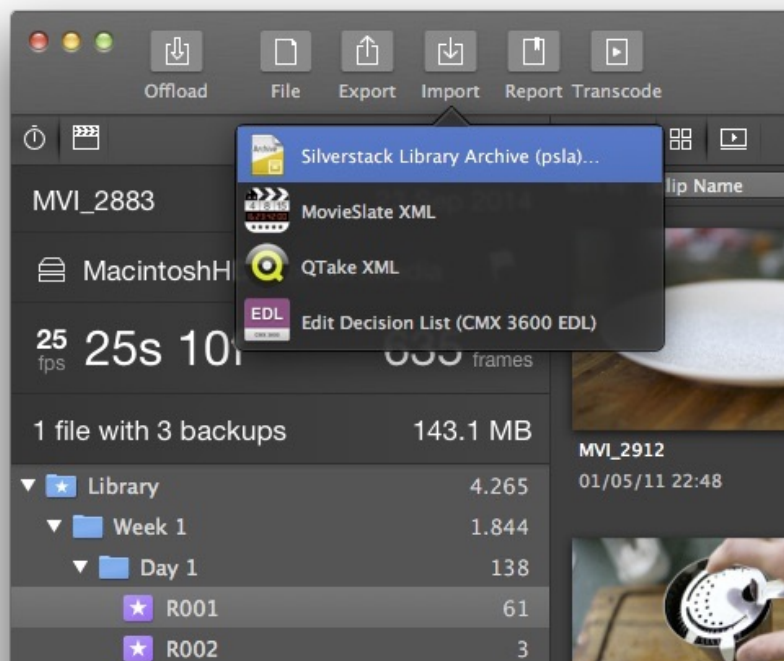


figure 6: import menu

Once the file has been selected, the Library Import wizard will appear. Here you can see the name of the folder that is going to be imported, the author, the export date and the comment describing its content. You are able to choose between importing the metadata as a new project or into the current project:

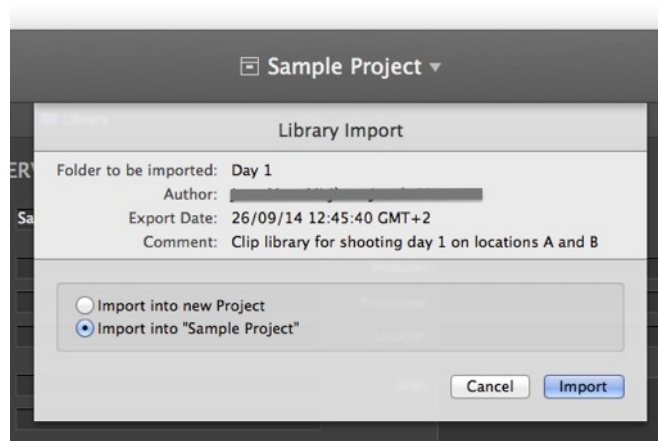


figure 7: metadata import wizard

Please bear in mind that an active license is needed to use this feature. You will need to migrate the license in case only one license key has been purchased.

Grading Controls in Silverstack

User Interface overview

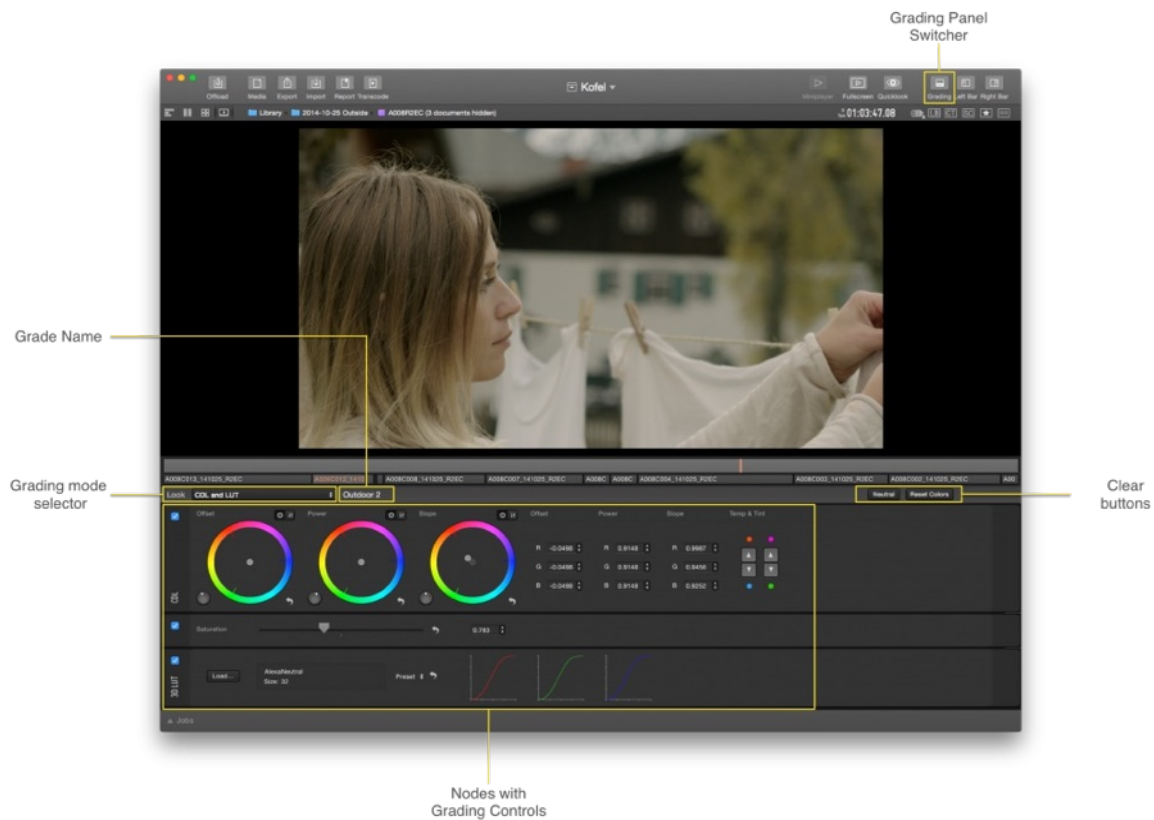


figure 1: UI with Grading Controls

The Grading Panel in Silverstack consists of all controls for manipulating the image filtering. The controls are grouped in nodes (such as 3D LUT node, CDL node etc.):

- **Grading mode selector:** You can switch between the different grading modes available on the drop down menu.
- **Nodes with grading controls:** Here you find all the nodes for a certain grading mode such as CDL color controls, 3D LUT loading node, saturation etc. Each node can be individually disabled by un-marking the blue check box.
- **Clear buttons:** You can clear either the entire look or just the color manipulation (and not LUTs or tone mapping curves)

- Using the «Neutral» button you can reset all settings (color and LUT) to a «neutral» state.
- Using the «Reset Colors» button you can reset the color settings to a “neutral” state.

Grading Modes

Silverstack supports different grading modes designed for specific camera setups and workflow environments.

The node-based design allows you to disable and reorder individual filter nodes to have greater grading freedom. You can disable a certain node by unchecking the blue check box. Have in mind that the processing order is from «top to bottom» when reordering the nodes.

Each grading mode allows different levels of grade customization, as the compatibility of the grades down the workflow creates some restrictions on how the color information has to be processed. For example, the camera compatible grading modes can have the nodes locked in a certain position to ensure the compatibility of the grade when being uploaded into the camera.

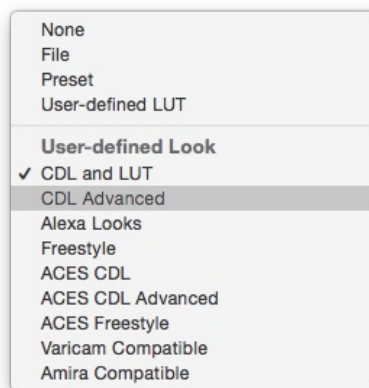


figure 2: The different grading modes to choose from.

The grading modes allowing the greatest level of customization are the Advanced and Freestyle modes.

CDL and LUT



Figure 3: The CDL and LUT grading mode

The CDL and LUT grading mode offers ASC-CDL controls for the use in a wide range of workflows. For clips recorded in Log color spaces, Silverstack allows to **import 3D LUTs** or choose from **3D LUT Presets**.

In order to support workflows that apply CDL in log gamma as well as in video gamma, the **order of LUT and CDL filters can be changed** when using the CDL Advanced grading mode. The CDL and LUT mode can also be used with **Rec.709 clips** without adding a 3D LUT.

The color controls for the CDL and LUT grading mode consist of:

- **ASC-CDL controls** node:
 - **RGB Shadows, Mid-tones and Highlights** color wheels



figure 4: ASC-CDL color wheels

- **Saturation** slider node



figure 5: Saturation node

- **Import of 3D LUT** node: The CDL and LUT grading mode can import 3D LUTs and CDL files and can export ASC-CDL files.
 - **3D LUT Import options** with averaged curve displays for each channel



figure 6: 3D LUT node

CDL Advanced

Allows you to add and reorder multiple nodes on advanced workflows.

Alexa Looks

This mode is designed to create .xml ALEXA Looks compatible with ARRI ALEXA cameras. More information in the article [Using the ALEXA Looks grading mode.](#)

Freestyle

This grading mode has been created to allow complete grading freedom. For this reason, there are some limitations on the available export formats for looks created on this mode.

ACES CDL

A mode adapted to the ACES standard. More information in the article [Using the ACES grading mode.](#)

ACES CDL Advanced

A mode adapted to the ACES standard. Allows you to add and reorder multiple nodes on advanced workflows.

Varicam Compatible

This mode is designed to create 3D LUTs and looks compatible with Panasonic Varicam 35 cameras.

Amira Compatible

This mode is designed to create .aml AMIRA Looks compatible with ARRI AMIRA cameras.

Available grading nodes

CDL Node

The CDL node contains a color wheel for Offset, Power and Slope. It can be used to adjust the color on the image.

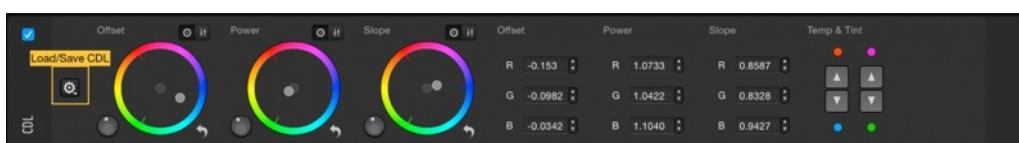


figure 7: CDL grading node

ASC-CDL files can be directly loaded and saved to/from the CDL node (supported format: *.cdl). Click the gear button on the left side of the CDL node and select if you want to load or save a CDL.

Please be aware that the ASC-CDL specification always includes a saturation value. When one saturation node is present CDLs will be loaded and saved from/to the present saturation node. When multiple CDL and saturation nodes are present you will be pointed choose the saturation node you want to load the saturation to (indicators A,B,C etc.).

Saturation Node

Just drag the slider to either side to increase or decrease the saturation on your look.

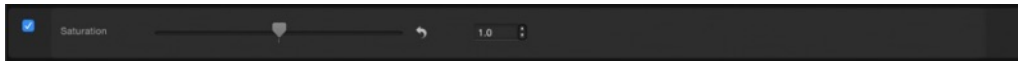


figure 8: Saturation node

3D LUT Node

The 3D LUT node is designed to load your own 3D LUTs by pressing the «Load...» button. Alternatively, you can also use one of the available preset 3D LUTs to convert the image to a Rec.709 color space.



figure 9: 3D LUT node

1D LUT Node

The 1D LUT lets you load your own 1D LUT file. Click the **“Load...”** button and select the 1D LUT you want to load to the node.



figure 10: 1D LUT Node

In contrast to the curve node the LUT in the 1D LUT node can not be edited afterwards.

Supported formats are:

- *.txt
 - channels: 3
 - range: 0.0 ... 1023.0 (float)
 - header: “R G B – HDLINK GAMMA TABLE”
 - entries: 1024
 - row example: “221.37 221.37 221.37”
- *.data
 - channels: 4
 - range: 0 ... 16383 (integer)
 - entries: 16384
 - row example: 15040,15040,15040,15040
- *.lut
 - channels: 3 (4 columns with leading index (0...65535, R, G, B))
 - range: 0 ... 65535 (integer)
 - header: “LUT16”
 - entries: 65536
 - row example: 45490 58366 58366 58366

Curve Node



figure 11: Curve node

The Curve node lets you adjust the 1D LUT curve on the image. If you click on «Edit», the curve editor window will pop up. It allows you to precisely grade your footage:



- To add a point just click on the curve, and in order to modify it's value just drag and drop.
- To remove a point simply move it out of the curve editor's window.
- When you move your mouse over the curve editor, the graph shows you the value of the exact point where it is.

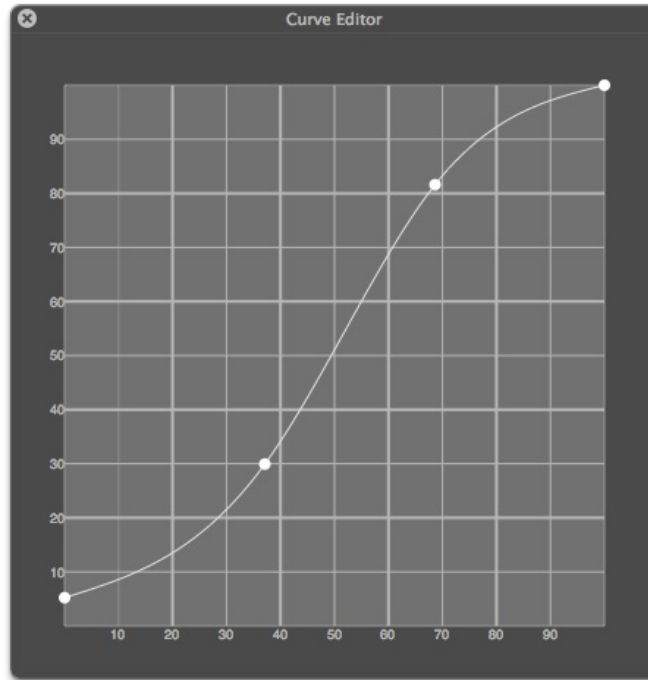


figure 12: Curve editor window

HHS Node

The HHS node –Hue to Hue and Saturation– is a new kind of node that allows you to map a certain hue on the image and replace it by another color with different hue and saturation. Here is an example where the red has been desaturated, but the other colors remain the same:



The HHS editor allows you to drag and drop the hue circles to another location on the color space to replace the original color with another one.

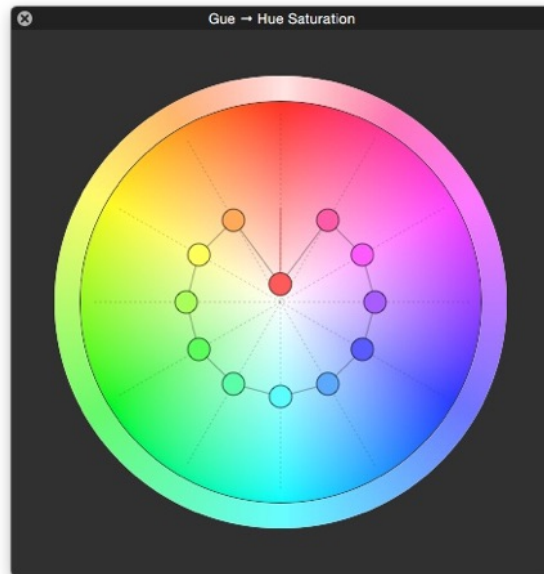


figure 13: HHS editor

Grading Panel Support

Silverstack supports the use of hardware grading panels for the grading functionalities. The following panels are supported:

- Tangent Element Tk
- Tangent Wave
- Avid Artist Color

Connect the hardware panels to Silverstack to precisely and physically manipulate your grades.

Using the ACES CDL Grading Mode



figure 1: ACES grading controls

Silverstack XT has the capability of reproducing ACES workflows.

Different versions of the ACES workflow are available from the Preferences panel:

- v 1.0.3 (ACEScc and ACESct)
- v 1.0.2
- v 1.0.1
- v 1.0.0
- v 0.7.1
- v 0.7.0
- v 0.2.0

These ACES versions have different IDTs (Input Device Transforms) and ODTs (Output Device Transforms). Please, make sure that the ACES version used in Silverstack XT matches the one used during the post production process for maximum color accuracy.

The grading nodes displayed in the ACES mode are divided in two parts:

- ACES color transformation panel
- CDL controls

Additionally, Silverstack XT offers the ACES CDL Advanced grading mode. This grading mode lets you add multiple grading nodes between the IDT and ODT for advanced workflows.

Managing ACES Versions

In the Silverstack preferences you can manage the available ACES versions and transforms:

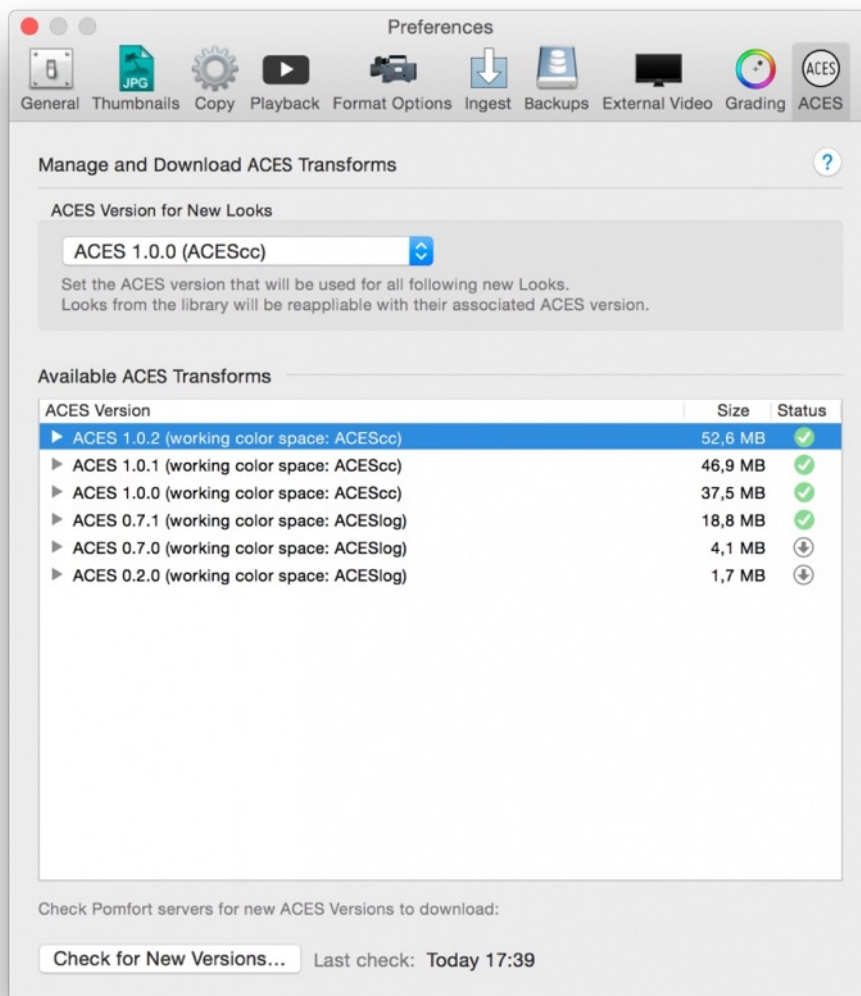


Fig. 2: ACES preference panel

The dropdown lets you select the ACES version for new looks. Every new look will be initialized with the ACES version selected in the dropdown in the preferences.

That means that every look in the library made with an ACES grading mode has an associated ACES version (you can find that version in the “**ACES Mode**” column in the Silverstack library). Saving looks with different ACES versions to the library will make it easy to compare the look of different ACES versions effortlessly.

In the section “**Available ACES Transforms**” you can find the available ACES versions and its associated transforms. The icon in the status bar will either signalize an available set of transforms (green checkmark) or a set of transforms that can be downloaded from the servers (download icon with downwards arrow).

Click the button “**Check for New Versions**” at the bottom of the preferences window to see if new ACES versions are available to download from the Pomfort servers.



Supported ACES IDT and ODT formats

Before starting to create your grades, select the correct IDT (matching your camera system) and the ODT (matching the output display color space) from the color transformation panel. LiveGrade Pro currently offers the following set of IDTs and ODTs:

- ACEScc v. 1.0.3
 - IDT
 - ARRI
 - Alexa Log-C EI1000 v3
 - Alexa Log-C EI1280 v3
 - Alexa Log-C EI160 v3
 - Alexa Log-C EI1600 v3
 - Alexa Log-C EI200 v3
 - Alexa Log-C EI2000 v3
 - Alexa Log-C EI250 v3
 - Alexa Log-C EI2560 v3
 - Alexa Log-C EI320 v3
 - Alexa Log-C EI3200 v3
 - Alexa Log-C EI400 v3
 - Alexa Log-C EI500 v3
 - Alexa Log-C EI640 v3
 - Alexa Log-C EI800 v3
 - Academy
 - ACESproxy
 - Reverse Rec.709 (ODT)
 - Canon
 - EOS C100 (A) D55 v1.0
 - EOS C100 (A) Tungsten v1.0
 - EOS C300 (A) D55 v1.0
 - EOS C300 (A) Tungsten v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) D55 v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) Tungsten v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) D55 v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) Tungsten v1.0
 - EOS C300 mkII CanonLog BT2020(D) D55 v1.0
 - EOS C300 mkII CanonLog BT2020(D) Tungsten v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) D55 v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) Tungsten v1.0
 - EOS C500 CinemaGamut(A) D55 v1.1.1
 - EOS C500 CinemaGamut(A) Tungsten v1.1.1
 - EOS C500 DCI-P3 D55 v1.1.1
 - EOS C500 DCI-P3 Tungsten v1.1.1
 - Panasonic
 - V35 v070
 - Sony
 - F35 S-Log1
 - S-Log2 Daylight
 - S-Log2 Tungsten
 - S-Log3 S-Gamut3
 - S-Log3 S-Gamut3.Cine
 - ODT
 - AMPAS
 - P3 ST2084 D60 1000nits
 - P3 ST2084 D60 2000nits
 - P3 ST2084 D60 4000nits
 - P3
 - RGB Monitor 100nits (dim)
 - RGB Monitor D60 100nits (dim)
 - Rec.2020 100nits (dim)
 - Rec.2020 ST2084 1000nits
 - Rec.709 100nits
 - Rec.709 D60 100nits
- ACESct v. 1.0.3
 - IDT



- ARRI
 - Alexa Log-C EI1000 v3
 - Alexa Log-C EI1280 v3
 - Alexa Log-C EI160 v3
 - Alexa Log-C EI1600 v3
 - Alexa Log-C EI200 v3
 - Alexa Log-C EI2000 v3
 - Alexa Log-C EI250 v3
 - Alexa Log-C EI2560 v3
 - Alexa Log-C EI320 v3
 - Alexa Log-C EI3200 v3
 - Alexa Log-C EI400 v3
 - Alexa Log-C EI500 v3
 - Alexa Log-C EI640 v3
 - Alexa Log-C EI800 v3
- Academy
 - ACESproxy
 - Reverse Rec.709 (ODT)
- Canon
 - EOS C100 (A) D55 v1.0
 - EOS C100 (A) Tungsten v1.0
 - EOS C300 (A) D55 v1.0
 - EOS C300 (A) Tungsten v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) D55 v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) Tungsten v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) D55 v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) Tungsten v1.0
 - EOS C300 mkII CanonLog BT2020(D) D55 v1.0
 - EOS C300 mkII CanonLog BT2020(D) Tungsten v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) D55 v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) Tungsten v1.0
 - EOS C500 CinemaGamut(A) D55 v1.1.1
 - EOS C500 CinemaGamut(A) Tungsten v1.1.1
 - EOS C500 DCI-P3 D55 v1.1.1
 - EOS C500 DCI-P3 Tungsten v1.1.1
- Panasonic
 - V35 v070
- Sony
 - F35 S-Log1
 - S-Log2 Daylight
 - S-Log2 Tungsten
 - S-Log3 S-Gamut3
 - S-Log3 S-Gamut3.Cine
- ODT
 - AMPAS
 - P3 ST2084 D60 1000nits
 - P3 ST2084 D60 2000nits
 - P3 ST2084 D60 4000nits
 - P3
 - RGB Monitor 100nits (dim)
 - RGB Monitor D60 100nits (dim)
 - Rec.2020 100nits (dim)
 - Rec.2020 ST2084 1000nits
 - Rec.709 100nits
 - Rec.709 D60 100nits
- ACESc v. 1.0.2
 - IDT
 - AMPAS
 - ACESproxy v1.0.1/1.0.2
 - Reverse Rec.709 (ODT) v1.0.1/1.0.2
 - ARRI
 - Alexa Log-C EI1000 v3
 - Alexa Log-C EI1280 v3
 - Alexa Log-C EI160 v3
 - Alexa Log-C EI1600 v3



- Alexa Log-C EI200 v3
- Alexa Log-C EI2000 v3
- Alexa Log-C EI250 v3
- Alexa Log-C EI2560 v3
- Alexa Log-C EI320 v3
- Alexa Log-C EI3200 v3
- Alexa Log-C EI400 v3
- Alexa Log-C EI500 v3
- Alexa Log-C EI640 v3
- Alexa Log-C EI800 v3
- Canon
 - EOS C100 (A) D55 v1.0
 - EOS C100 (A) Tungsten v1.0
 - EOS C300 (A) D55 v1.0
 - EOS C300 (A) Tungsten v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) D55 v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) Tungsten v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) D55 v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) Tungsten v1.0
 - EOS C300 mkII CanonLog BT2020(D) D55 v1.0
 - EOS C300 mkII CanonLog BT2020(D) Tungsten v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) D55 v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) Tungsten v1.0
 - EOS C500 CinemaGamut(A) D55 v1.1.1
 - EOS C500 CinemaGamut(A) Tungsten v1.1.1
 - EOS C500 DCI-P3 D55 v1.1.1
 - EOS C500 DCI-P3 Tungsten v1.1.1
- Panasonic
 - V35 v070
- Sony
 - F35 Slog1
 - F55/F65 Slog2 Daylight
 - F55/F65 Slog2 Tungsten
- ODT
 - AMPAS
 - P3 ST2084 D60 1000nits v1.0.1/1.0.2
 - P3 ST2084 D60 2000nits v1.0.1/1.0.2
 - P3 ST2084 D60 4000nits v1.0.1/1.0.2
 - P3 v1.0.1/1.0.2
 - Rec.2020 100nits (dim) v1.0.1/1.0.2
 - Rec.2020 ST2084 1000nits v1.0.1/1.0.2
 - Rec.709 100nits v1.0.1/1.0.2
 - Rec.709 D60 100nits v1.0.1/1.0.2
- ACEScc v. 1.0.1
 - IDT
 - AMPAS
 - ACESproxy v1.0.1
 - Reverse Rec.709 (ODT) v1.0.1
 - ARRI
 - Alexa Log-C EI800 v3
 - Canon
 - EOS C100 (A) D55 v1.0
 - EOS C100 (A) Tungsten v1.0
 - EOS C300 (A) D55 v1.0
 - EOS C300 (A) Tungsten v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) D55 v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) Tungsten v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) D55 v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) Tungsten v1.0
 - EOS C300 mkII CanonLog BT2020(D) D55 v1.0
 - EOS C300 mkII CanonLog BT2020(D) Tungsten v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) D55 v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) Tungsten v1.0
 - EOS C500 CinemaGamut(A) D55 v1.1.1
 - EOS C500 CinemaGamut(A) Tungsten v1.1.1



- EOS C500 DCI-P3 D55 v1.1.1
 - EOS C500 DCI-P3 Tungsten v1.1.1
- Panasonic
 - V35 v070
- Sony
 - F35 Slog1
 - F55/F65 Slog2 Daylight
 - F55/F65 Slog2 Tungsten
- ODT
 - AMPAS
 - P3 v1.0.1
 - Rec.2020 100nits (dim) v1.0.1
 - Rec.709 100nits v1.0.1
- ACESlog v. 1.0.0
 - IDT
 - AMPAS
 - ACESproxy (ACESlog v1.0.0)
 - Reverse Rec.709 (ODT) (ACESlog v1.0.0)
 - Alexa
 - v3 EI800 (ACESlog v1.0.0)
 - Canon
 - EOS C300 mkII CanonLog2 BT2020(B) D55 v1.0
 - EOS C300 mkII CanonLog2 BT2020(B) Tungsten v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) D55 v1.0
 - EOS C300 mkII CanonLog2 CinemaGamut(A) Tungsten v1.0
 - EOS C300 mkII CanonLog BT2020(D) D55 v1.0
 - EOS C300 mkII CanonLog BT2020(D) Tungsten v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) D55 v1.0
 - EOS C300 mkII CanonLog CinemaGamut(C) Tungsten v1.0
 - EOS CinemaGamut(A) D55 v1.1 (ACESlog v1.0.0)
 - EOS CinemaGamut(A) Tungsten v1.1 (ACESlog v1.0.0)
 - EOS DCI-P3 D55 v1.1 (ACESlog v1.0.0)
 - EOS DCI-P3 Tungsten v1.1 (ACESlog v1.0.0)
 - Panasonic
 - V35 v070 (ACESlog v1.0.0)
 - Sony
 - Slog1 (F35) (ACESlog v1.0.0)
 - Slog2 (F55/F65) Daylight (ACESlog v1.0.0)
 - Slog2 (F55/F65) Tungsten (ACESlog v1.0.0)
 - ODT
 - AMPAS
 - P3 (ACESlog v1.0.0)
 - Rec.2020 100nits dim (ACESlog v1.0.0)
 - Rec.709 100nits (ACESlog v1.0.0)
- ACESlog v. 0.7.1
 - IDT
 - Alexa
 - v3 EI800 (ACESlog v0.7.1)
 - Canon
 - EOS CinemaGamut(A) D55 v1.1 (ACESlog v0.7.1)
 - EOS CinemaGamut(A) Tungsten v1.1 (ACESlog v0.7.1)
 - EOS DCI-P3 D55 v1.1 (ACESlog v0.7.1)
 - EOS DCI-P3 Tungsten v1.1 (ACESlog v0.7.1)
 - Panasonic
 - V35 v070 (ACESlog v0.7.1)
 - Sony
 - Slog1 (F35) (ACESlog v0.7.1)
 - Slog2 (F55/F65) Daylight (ACESlog v0.7.1)
 - Slog2 (F55/F65) Tungsten (ACESlog v0.7.1)
 - ODT
 - AMPAS
 - P3 (ACESlog v0.7.1)
 - Rec.709 100nits (ACESlog v0.7.1)
- ACESlog v. 0.7.0
 - IDT



- Alexa
 - (ACESlog v0.7.0)
- Canon
 - EOS CinemaGamut(A) D55 v1.1 (ACESlog v0.7.0)
 - EOS CinemaGamut(A) Tungsten v1.1 (ACESlog v0.7.0)
 - EOS DCI-P3+(A) D55 v1.1 (ACESlog v0.7.0)
 - EOS DCI-P3+(A) Tungsten v1.1 (ACESlog v0.7.0)
- Panasonic
 - VariCam 35 (ACESlog v0.7.0)
- Sony
 - F35 (ACESlog v0.7.0)
 - F55 Daylight (ACESlog v0.7.0)
 - F55 Tungsten (ACESlog v0.7.0)
- ODT
 - AMPAS
 - P3 (ACESlog v0.7.0)
 - Rec.709 (ACESlog v0.7.0)
- ACESlog v. 0.2.0
 - IDT
 - Alexa
 - (ACESlog v0.2.0)
 - Sony
 - (ACESlog v0.2.0)
 - ODT
 - AMPAS
 - P3 (ACESlog v0.2.0)
 - Rec.709 (ACESlog v0.2.0)

The CDL controls behave the same way as in the CDL Grade mode and can also be exported as usual from a saved grade. ACES grades can also be exported as 3D LUTs, including the CDL values, IDT and ODT.

The Silverstack Look Library

Silverstack enables you to manage looks within Silverstack in a look library in order to keep a proper overview of all the looks in your project. The look library allows to store new looks, edit their metadata, apply looks to one or multiple clips, as well as to import looks from LiveGrade.

The Look Tab

The look tab in the right bar of Silverstack is marked with a specific icon:



Click the icon to reach the look tab. The tab itself consists of three sections:

- **Look Library**
- **Looks**
- **Look Details**

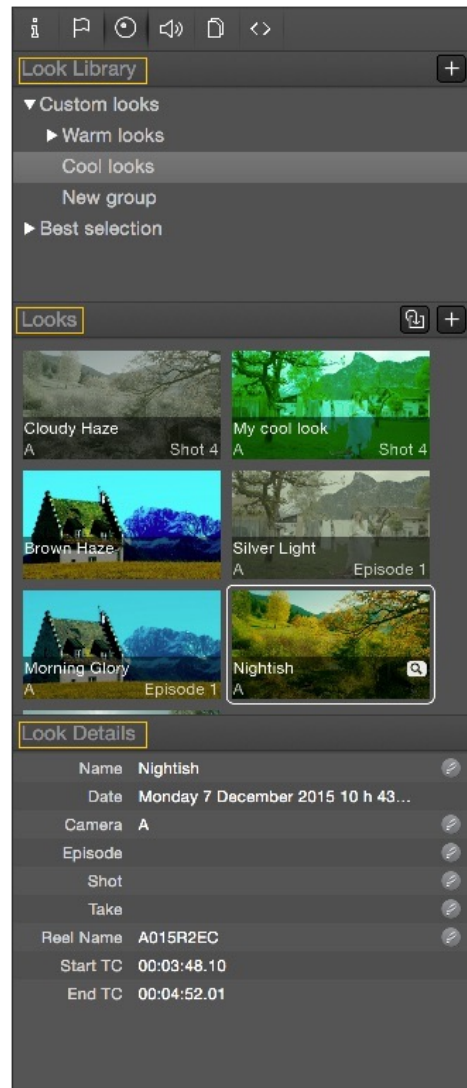


Figure 1: The Silverstack look tab containing the Look Library.

In detail those sections enable you to:

Look Library

- Create new folders by clicking the “+” button on the top right
- Create sub folders by holding “alt” plus clicking the “+” button
- Edit the structure by dragging folders out of or into each other
- Rename folders by selecting and single clicking them or hitting enter

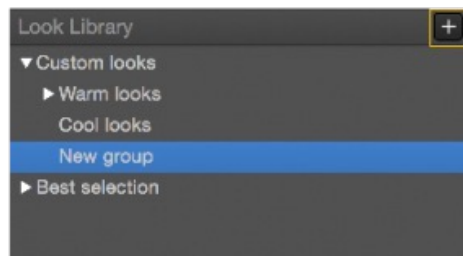


Figure 2: Organize folders containing looks

Looks

- Create a new look by clicking the “+” button on the top right
- Update a look by selecting one and clicking the update button next to the “+” button
- Preview a look by selecting it and clicking plus holding the loupe icon



- Apply a look to the current clip in the player by double-clicking the intended look
- Apply looks to multiple clips by selecting the desired clips and double clicking the intended look
- Move one or multiple Looks to other folders by dragging and dropping it to a different Looks folder in the Look Library*

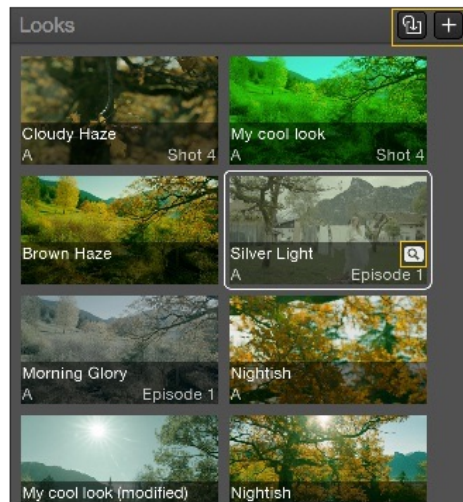


Figure 3: The looks section with highlighted add, update and preview look buttons

The context menu for looks can be reached by right clicking a look. It enables you to:

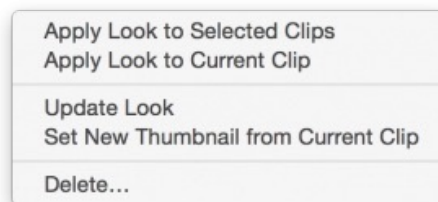


Figure 4: The context menu can be reached with a right click on a look

- Apply a look to the selected clips (one or multiple clips)
- Apply a look only to the current clip shown in the player (even if multiple clips are selected)
- Update the look with the current grade
- Set a new thumbnail from the current clip but leaving the look identical
- Delete one or multiple looks.

To learn how to use the Silverstack grading controls please refer to the article [Grading Controls in Silverstack](#).

Look Details

When importing looks from LiveGrade, the information fields in the Look Details receive the values from the look edited in LiveGrade. In the Look Details it is possible to:

- Edit the look name
- Edit metadata of the look including Date, Camera, Episode, Shot, Take and Reel Name
- Display Start and End Timecode

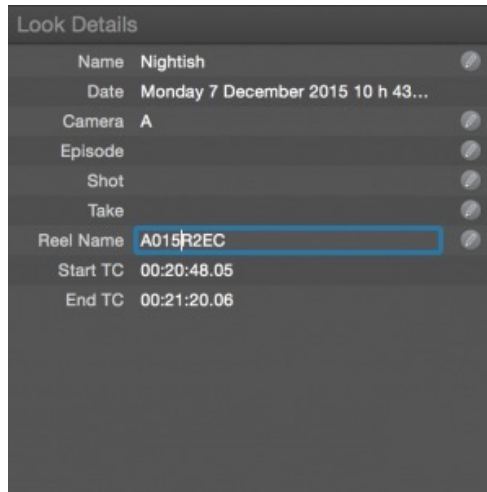


Figure 5: The Look Details section

Importing and Exporting Looks

You can import a look from LiveGrade by selecting “**File>Import>Pomfort Looks (pfl)...**” from the main menu. You can learn about the process of transferring looks from LiveGrade to Silverstack in the article [Transferring Looks from Livegrade to Silverstack](#).

Read about exporting looks from Silverstack in the article [Exporting Looks from Silverstack](#).

Look Functions in the Main Menu

You can find most of the functions concerning the Look Library in the Main Menu. Go to “**Main Menu>Look**” and choose from the following actions:

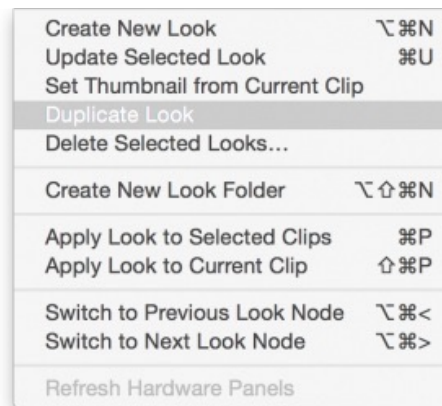


Figure 6: The “Look” section of the Main Menu

- Create a new look
- Update a selected look
- Set the thumbnail from the current clip
- Duplicate Look
- Create a new look folder
- Apply a look to all selected clips
- Apply a look only to the current clip
- Switch to the previous look node (useful for working with grading panels in more advanced grading modes)
- Switch to the next look node (useful for working with grading panels in more advanced grading modes)
- Refreshing hardware panels

Please refer to the shortcuts at the end of the entries for faster access of the functions.

* Please be aware that you have to click and hold the selected look(s) to see the transparent thumbnails pop out to enable the drag & drop function. Trying to move a look while immediately pulling it will leave you with the multi select function of the collection view.

Look Matching

While using **Silverstack together with LiveGrade** on set to manage clip data and looks hand in hand, you surely want to combine the created information afterwards. Silverstack offers a solution to avoid assigning looks to clips manually. You can connect them based on the metadata you already created while generating them.

How to Match your LiveGrade Pro Looks to Silverstack Clips

It is possible to automatically match a package of looks created with LiveGrade Pro to the according clips in Silverstack. A Look Archive (.pfla) containing several different looks can be exported from LiveGrade Pro. This Look Archive can be imported into Silverstack to then match the looks to the according clips based on different metadata.

The steps to match looks from LiveGrade Pro to clips in Silverstack are:

1. Export a Look Archive from LiveGrade Pro
2. Import the Look Archive into Silverstack
3. Operate the matching Wizard to match by the desired criteria:
 - Match by Timecode
 - Match by Creation Time of Look
 - Match by Episode, Scene, Shot, Take
 - Choose if to match with Camera as well

1. Export a Look Archive from LiveGrade Pro

A Look Archive can contain one or multiple looks along with all the further metadata acquired in LiveGrade Pro.

To export a Look Archive put all the desired looks into one folder in the LiveGrade Look Library. Perform a right click on that folder and choose “Export Look Archive” from the context menu:

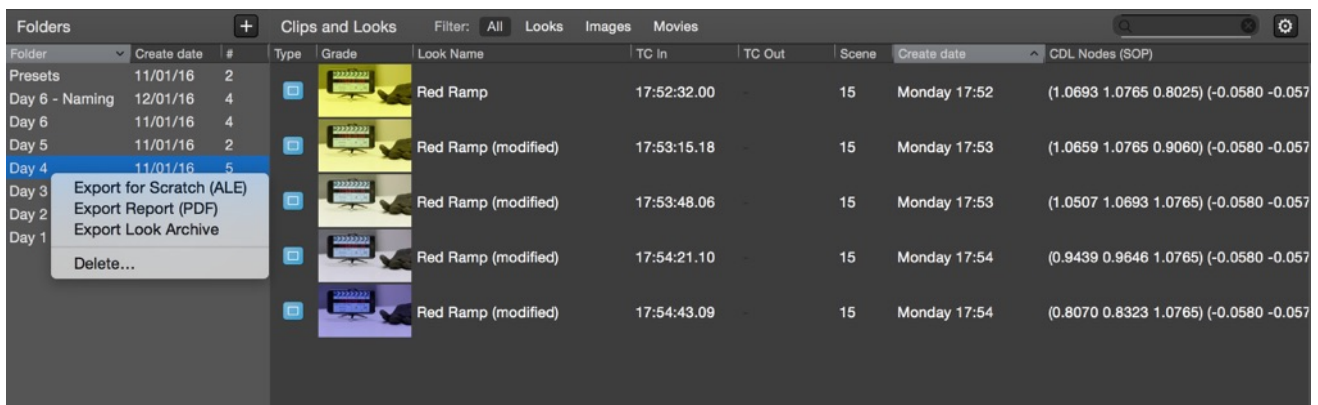


Figure 1: Exporting a Look Archive from LiveGrade Pro

Save the resulting .pfla (Pomfort Look Archive) file to the desired destination.

2. Import a Look Archive into Silverstack

Make sure you ingested all the clips that will get a look into one bin in Silverstack. Learn about offloading media from the article [Parallel Offloading](#).

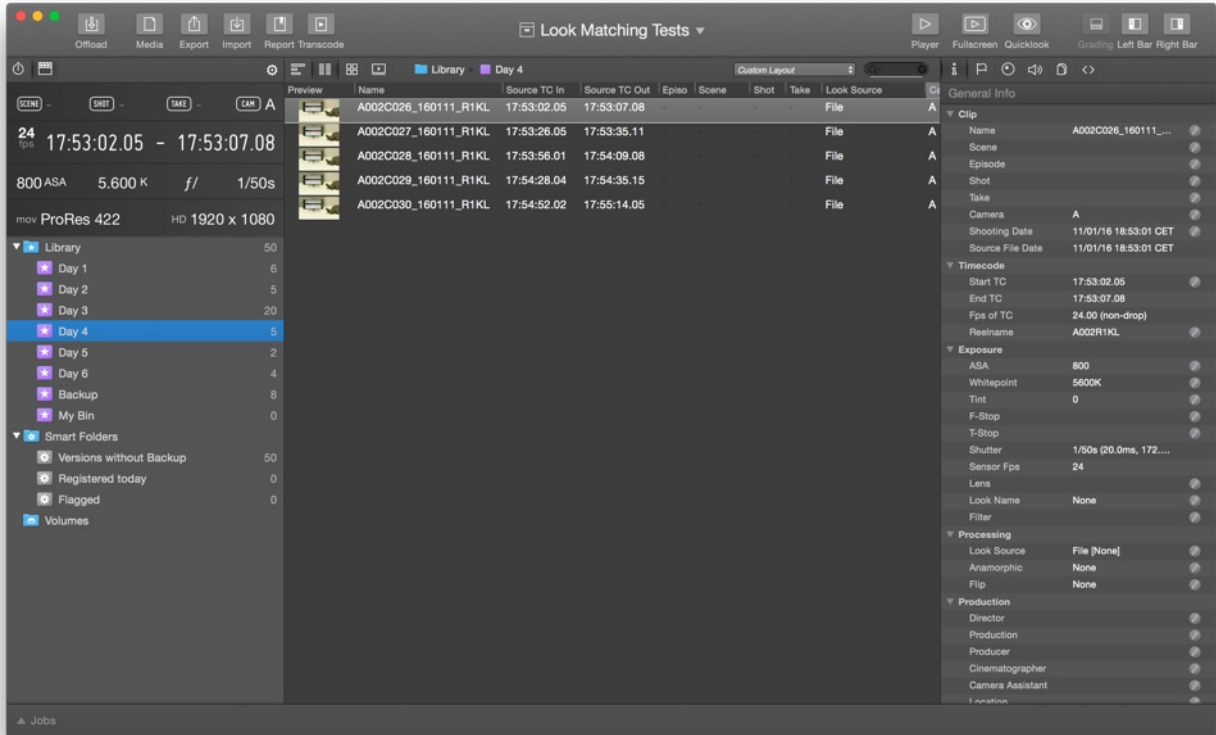


Figure 2: Bin with clips that should receive matching looks

Make sure to have the according bin selected prior to starting the import.

To import a Look Archive into Silverstack go to the Main Menu. Choose **“File > Import > Match with Pomfort Look Archive”**:

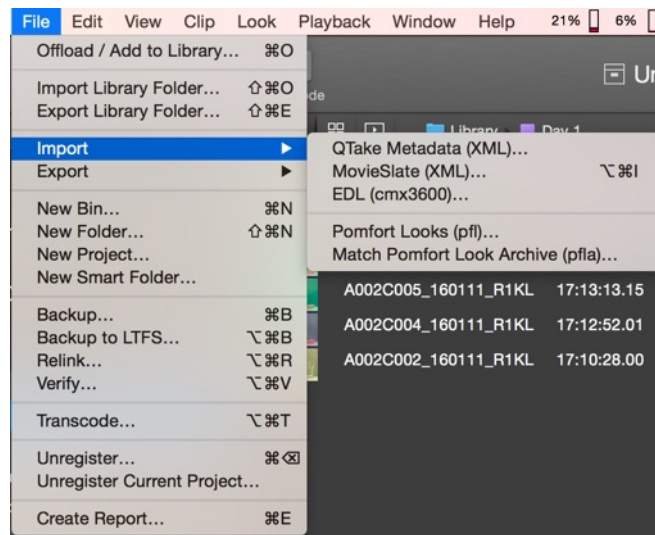


Figure 3: Importing a Look Archive for Matching

3. The Look Matching Wizard

After that a wizard window will open that first advises you to select a Look Archive for the matching:

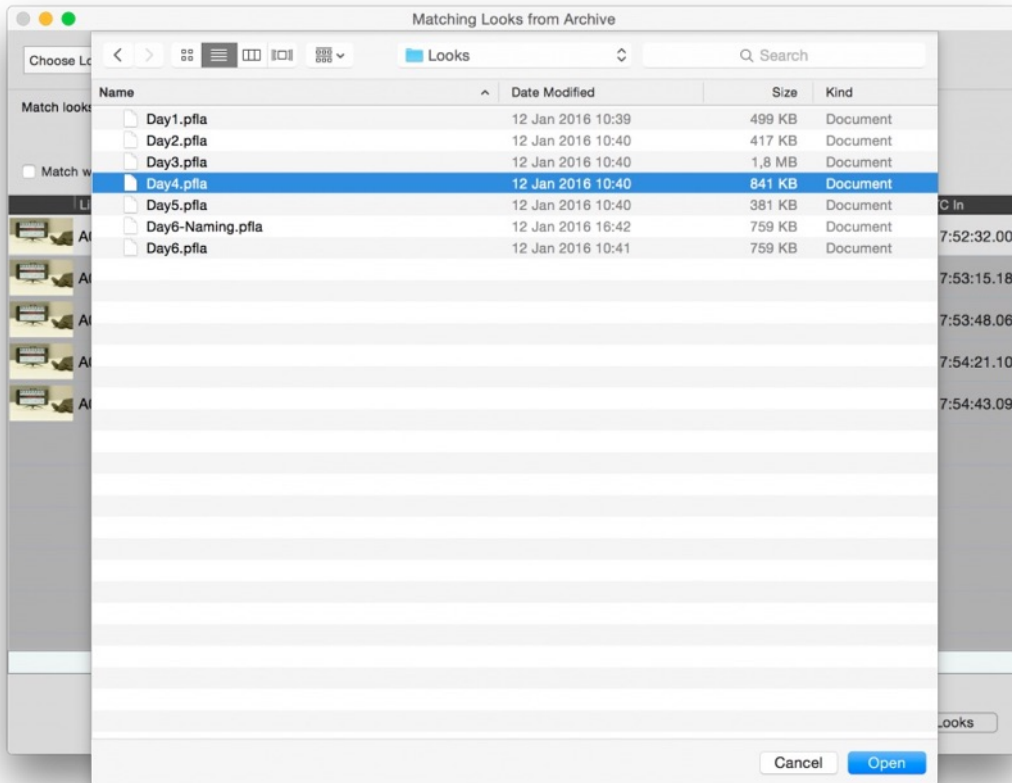


Figure 4: Select the desired Look Archive

Navigate to the .pfla file you saved from LiveGrade Pro, select it and click “Open”.

You will now be presented with the matching wizard window:

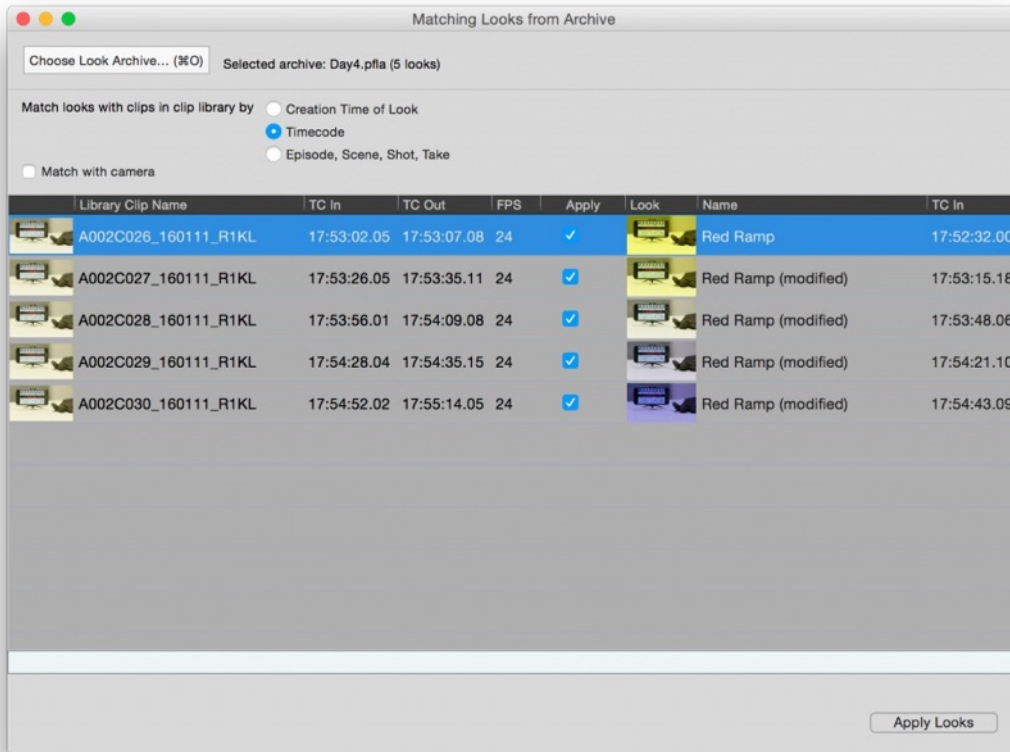


Figure 5: The look matching wizard

You can choose between three different matching criteria:

- **Match by Timecode**

This criterion will match the looks by timecode. The look will match to a clip if its *TC In* is before or within the range of the *TC* of the clip. Additionally the looks will be applied to all clips that follow until the next look with a subsequent *TC In*. If a new look has a *TC In* that is inside of the *TC range* of a clip (so the look before ends within the clip) the matching wizard will suggest two looks but preselects the latter by default.

- **Match by Creation Time of Look**

This criterion will match the looks by their creation time. The look will match to a clip if its creation date is before the time range of the clip. It will match to all following clips until a new creation date of a look is found that is placed inside the time range of a clip. Additionally you can shift the timezone if the camera setup was wrong at the time of recording:

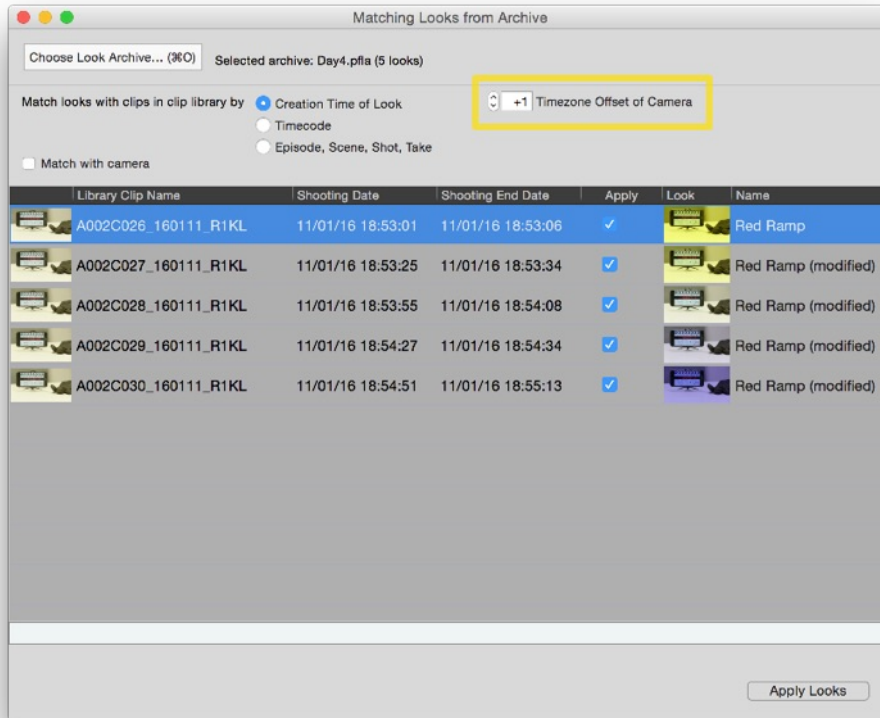


Figure 6: Adapt the timezone offset if needed.

• Match by Episode, Scene, Shot, Take

This criterion will match the looks by the episode, scene, shot and take metadata values. The look will match to a clip if the metadata for episode, scene, shot or take is equal.

Additionally to the three different matching criteria, for each of them you can:

• Match with Camera

Additionally to the selection of your criterion among the three criteria you can choose if the looks should be matched to the clips by the camera metadata value.

Example:

If you have Camera A and B and match looks by timecode the looks may apply to both of the cameras if they have the same TC. If you then enable the checkbox “Match with camera” the camera value will be considered on top of the TC and will then match the correct looks to the camera specific clips.

To learn how to simply transfer looks from LiveGrade to Silverstack please refer to this article [Transferring Looks from LiveGrade Pro to Silverstack](#).

Audio Clips in Silverstack

Silverstack offers advanced support for separately recorded audio files in the Broadcast Wave format (BWF, .wav).

Ingest of Audio Clips

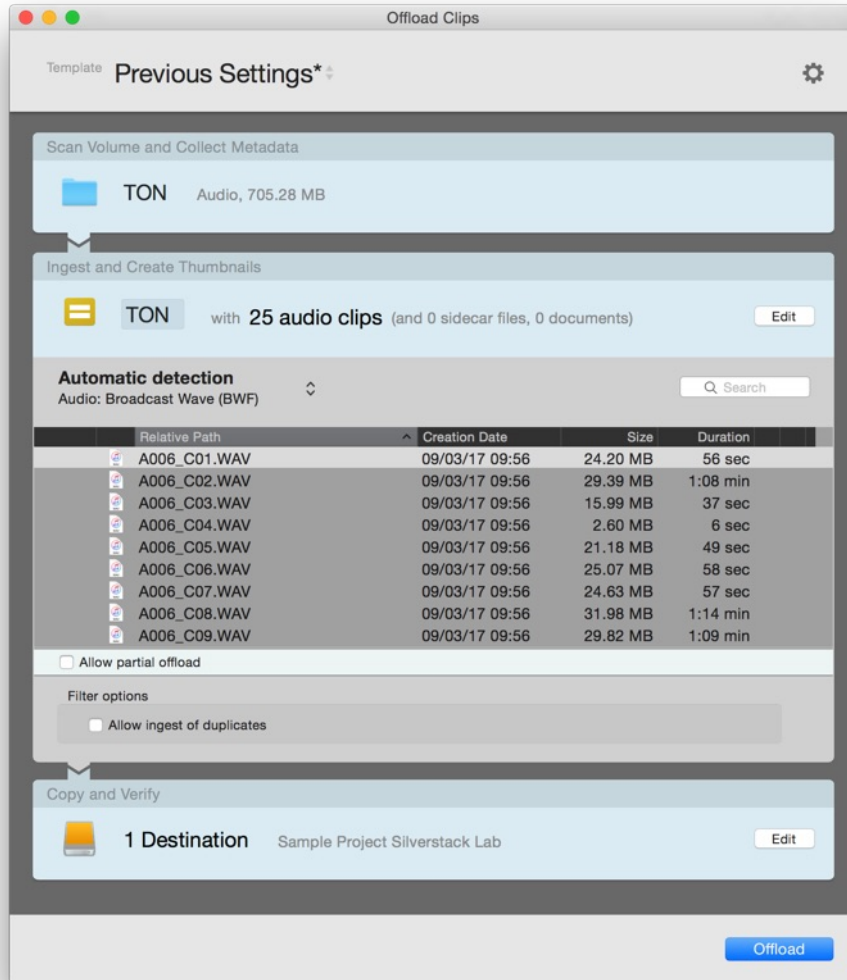


Fig 1: Ingest and copy Broadcast Wave audio files

To ingest audio files into Silverstack click the **“Offload”** button in the upper left corner of the UI and choose the card or folder with the audio files to be offloaded. Audio files can be backed up within the audio wizard just as any other file type. Learn more about it in the article [Parallel Offloading](#).

After starting the offload process Silverstack will register the audio clips in the library:

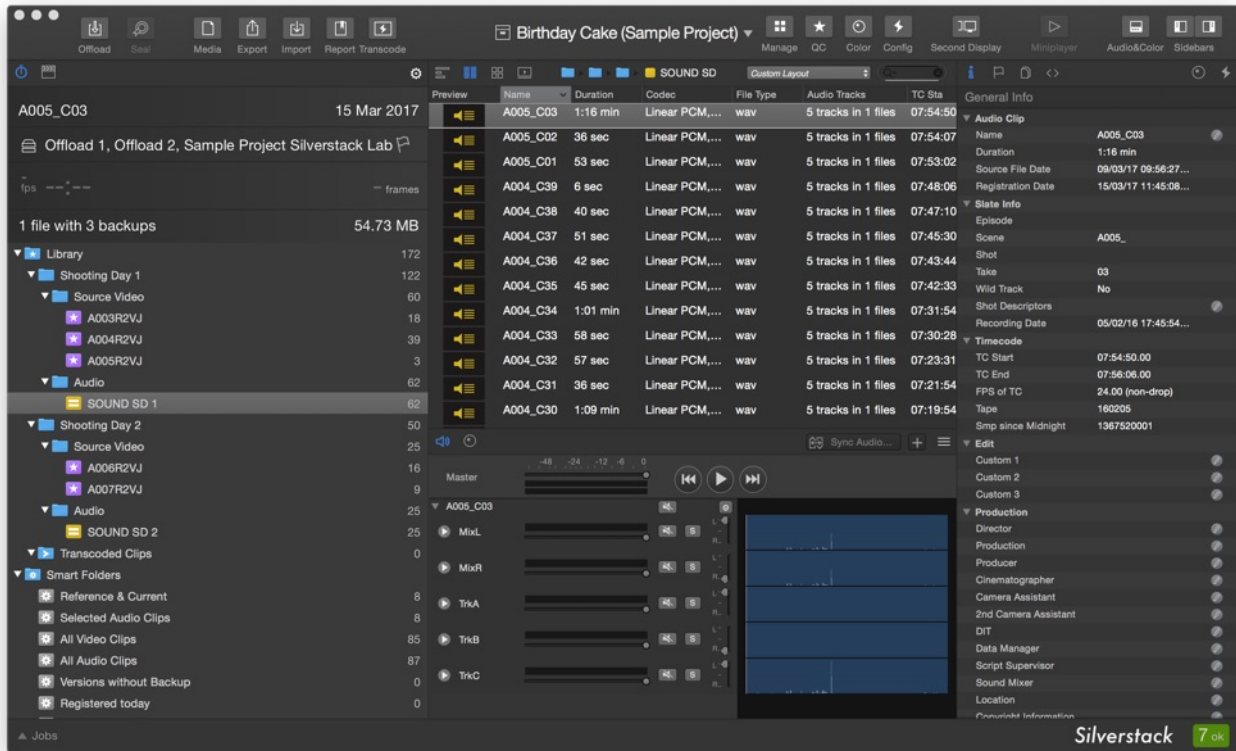


Fig. 2: Audio clips in the Silverstack library

Silverstack will automatically detect .wav files that belong to the same clip and merges them together to an audio clip containing several audio tracks.

By opening the audio panel with the “**Audio&Color**” button in the toolbar all the audio tracks including waveform will be visible for the selected audio clip.

You can play audio clips back by clicking the play button.

The audio panel offers the following controls:

- **Master Volume:** Controls the output signal level of the mix.
- **Audio meters:** Represent the audio signal level during playback. There is a stereo Master meter and additional Channel meters — one for each audio track. The scale on top of the meters indicates the audio level in dB (dBFS). Peaking is represented by a bar in the according color of the peaking level that remains at the maximum position. You can reset the peak bar by clicking on the audio meters.
- **Channel mixers:** The sliders control the signal level for each track. You can mute specific «Left» and «Right» tracks by disabling the check boxes on the right of the channel mixers.
- **Mute button:** Mutes the according audio channel or the complete audio clip section
- **Solo button:** Solos the according audio channel, as long as the button is pressed
- **Pan control:** Sets the panorama to left, middle or right

The audio tracks panel can be opened from the small play button on the left side of the track name. It enables the playback of a single audio channel*:

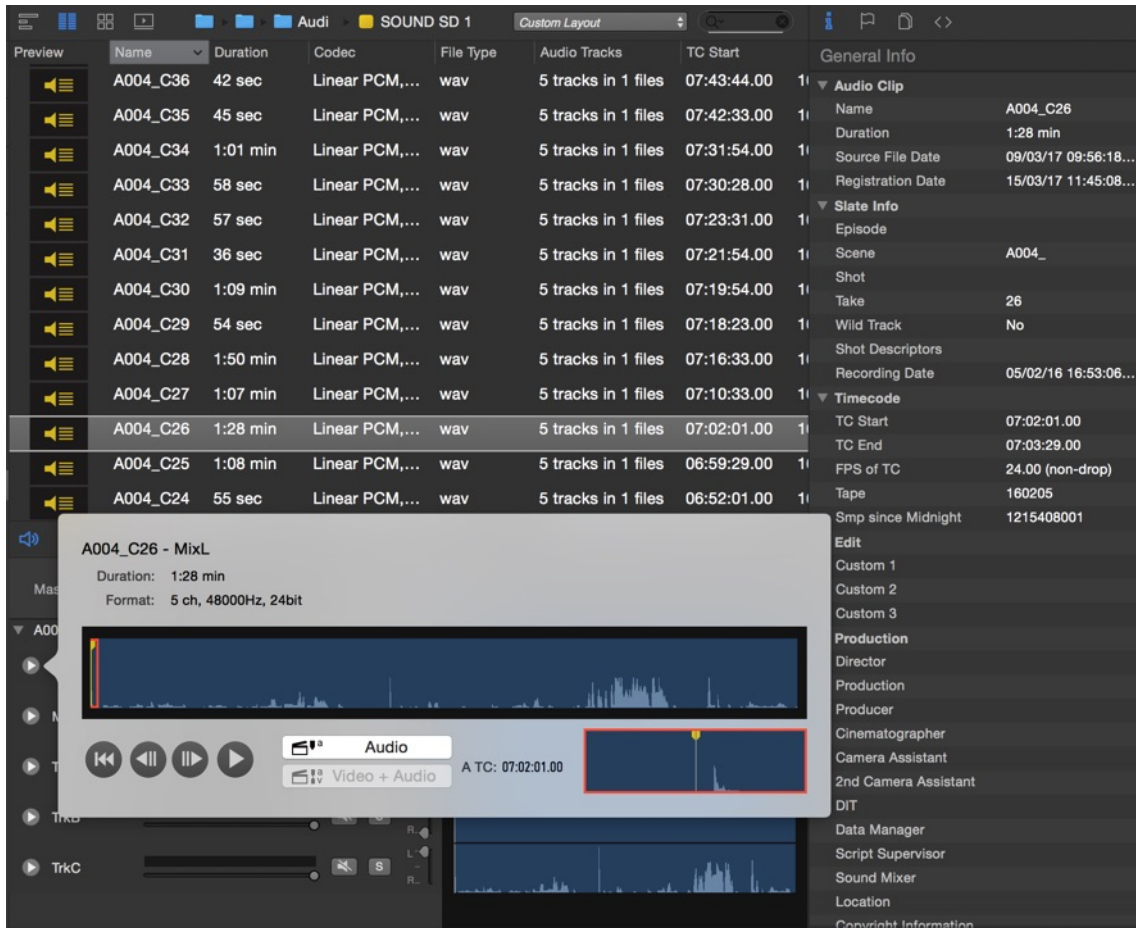


Fig. 3: The audio tracks panel with single audio track playback

Audio Clips Metadata

Audio clips in Silverstack own a special set of metadata that is shown in the General Info tab of the right bar. The following metadata will be pulled from the audio file metadata:

- Scene – Shot – Take
- Wild Track
- Recorder Model
- Recorder Device ID
- Samples since Midnight
- FPS of TC
- TC Start
- TC End
- Tape
- Recording Date
- Audio Track Names

Adding Audio Clips as External Audio to Video Clips

Once ingested audio clips can be added to video clips as external audio either manually (Silverstack XT) or automatically (Silverstack Lab):

- Manual Audio Sync: [How to Manually Sync Audio in Silverstack XT and Silverstack Lab](#)
- Automatic Audio Sync: [How to Automatically Sync Audio Based on Timecode in Silverstack Lab](#)

*only available in Silverstack XT and Silverstack Lab

How to Manually Sync Audio in Silverstack XT and Silverstack Lab

Silverstack XT and Silverstack Lab offer functionality to manually sync audio clips to video clips.

Basic Principles: Audio Sync with Slate Markers



The process of manually syncing audio in Silverstack is divided into two basic steps: matching the according audio clip to a video clip, and subsequently syncing the audio and video clip at the right position.

The basic idea of the sync at the right position bases on the functionality of **setting slate markers** in the video and audio clip. By setting slate markers the user defines a **sync position in both audio and video to be used to link the audio and video clips**. Silverstack will automatically align the video clip and the according audio clip at the specified positions.

The article will describe in detail how to set the slate markers in the UI of Silverstack to attain a sync at the intended position as well as how to move the sync position if needed.

The counterpart of the manual sync is the automatic sync based on timecode that is available in Silverstack Lab. You can learn more about automatic audio sync in Silverstack Lab in the article "[How to Automatically Sync Audio Based on Timecode in Silverstack Lab](#)".

Manual Audio Sync: Step-by-Step

Overview

1. Have all needed assets available in the Silverstack Library (audio and video clips have to be available for playback).
2. Open the video clip you want to manually sync audio in the Silverstack player and go to the frame you want to set the video slate marker (e.g. the frame where the slate visually closes).
3. Open the "Audio&Color" panel in the lower center of the UI and switch to the audio tab (or hit the "QC" UI Layout button in the toolbar).
4. Add the fitting audio clip to the current video clip by clicking the "+" button in the upper right corner of the audio panel
5. Browse to the position of the audio clip you want to set the audio slate marker and hit the "Slate a+v: Video + Audio" button to set the slate in the video and the audio at the current position of the playheads.
6. Click "Add Clip" to add the audio clip as external audio to the video clip and sync at the position of the slate markers.

Please note: You can also set audio and video slate markers independently and in any order.

In Detail

1. Register All Needed Assets in the Silverstack Library

Make sure to have the video clips and their according audio clips registered in the Silverstack Library. Learn about audio clips in Silverstack in the article [Audio Clips in Silverstack](#).

2. Open the Video Clip You Want to Manually Sync Audio With

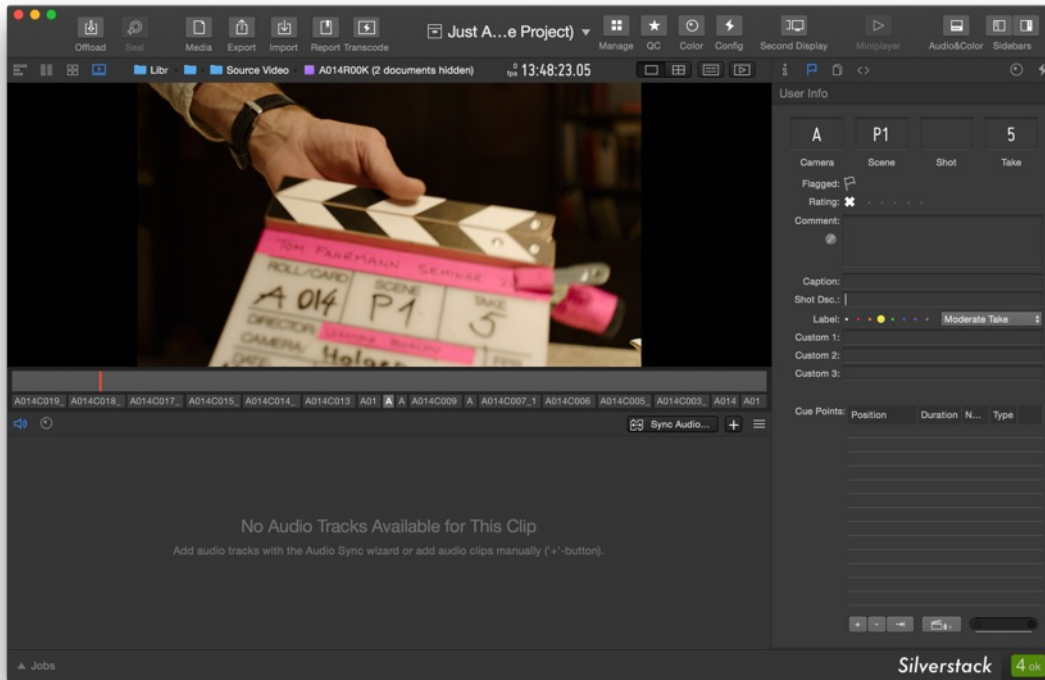


Fig.1: The video clip at the slate position.

Move the video clip to the frame the slate goes down. If no slate is present you can choose any other significant position you want to sync to.

In this example the slate will be set in the next steps together with the audio slate. It is also possible to already set the video slate at this point. Read more about “Relocating Slate Markers” in the according section below.

3. Open The “Audio&Color” Panel in the Lower Center of the UI

The audio panel can be opened by clicking the “**Audio&Color**” button on the right side of the toolbar. Make sure to show the audio panel (see Fig.1).

The right configuration for adding manual audio clips can also be achieved by clicking the “**QC**” UI layout button in the toolbar (you can learn more about UI layouts in the article “[UI Layouts: Quick Configurations for the Silverstack User Interface](#)”).

4. Hit The “+” Button in the Upper Right Corner of the Audio Panel to Add an Audio Clip

The “+” button in the upper right corner of the audio panel opens a popover that lets you select an audio clip that should be added to the video clip:

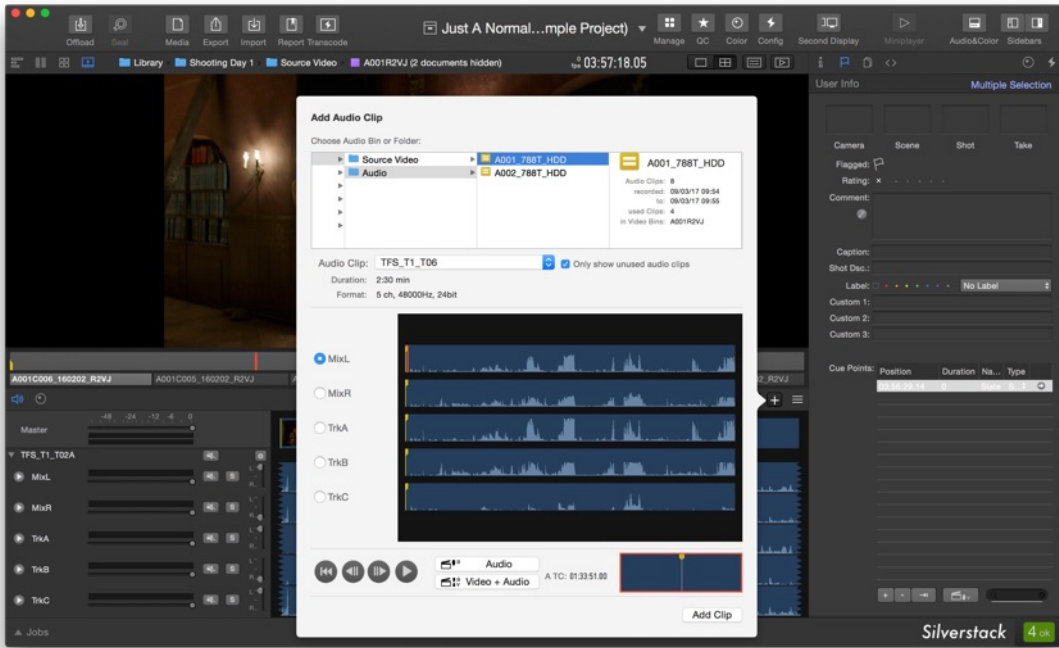


Fig. 2: Choose an audio clip to be added

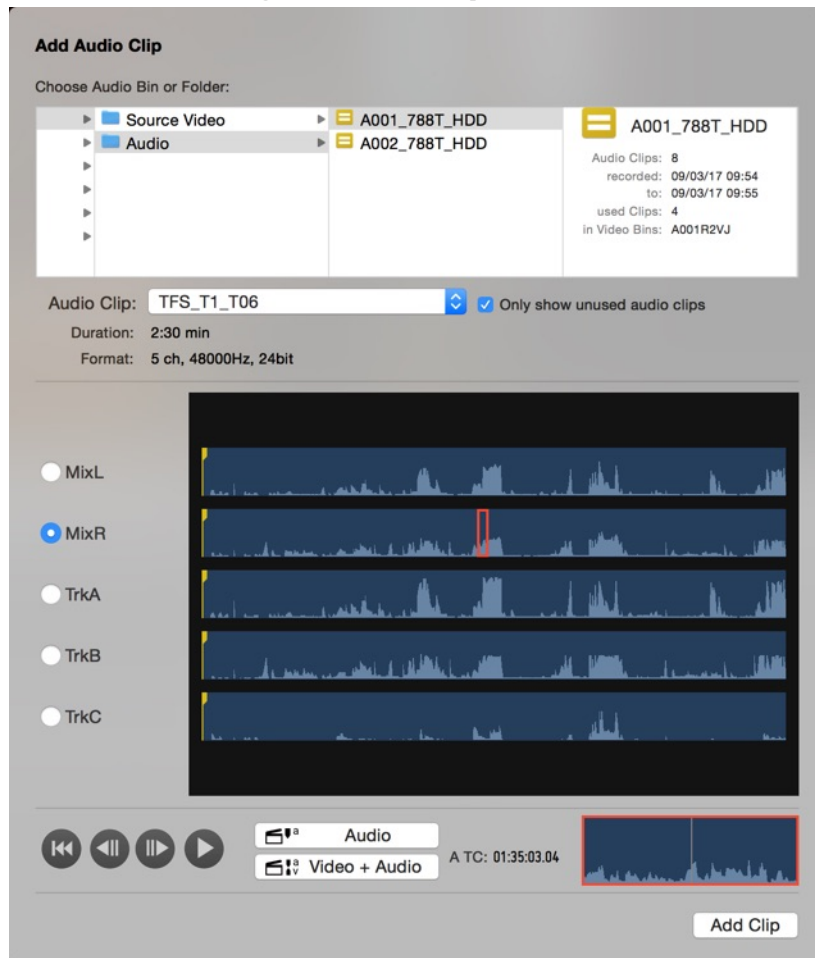
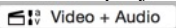



Fig. 3: The “Add Audio Clip” popover in detail

Select the intended audio clip from the **“Audio Clip”** dropdown.

Move the playhead of the audio clips to the position you want to set the audio slate to. Click the button  to set both, the audio and the video slate at the position of the according playhead.

The button  **Audio** will set a slate only in the audio clip.

Please note that a video clip that has an external audio clip assigned to it will in any case contain a slate marker. If the slate marker is not specified it will be set to the first frame of the video clip and will accordingly be used as the sync position.

6. Click “Add Clip” to add the audio clip as external audio

Now click “**Add Clip**”. The specified audio clip will now be added to the video clip and all tracks will now be available in the audio panel. The video and audio clip sync at their slate positions.

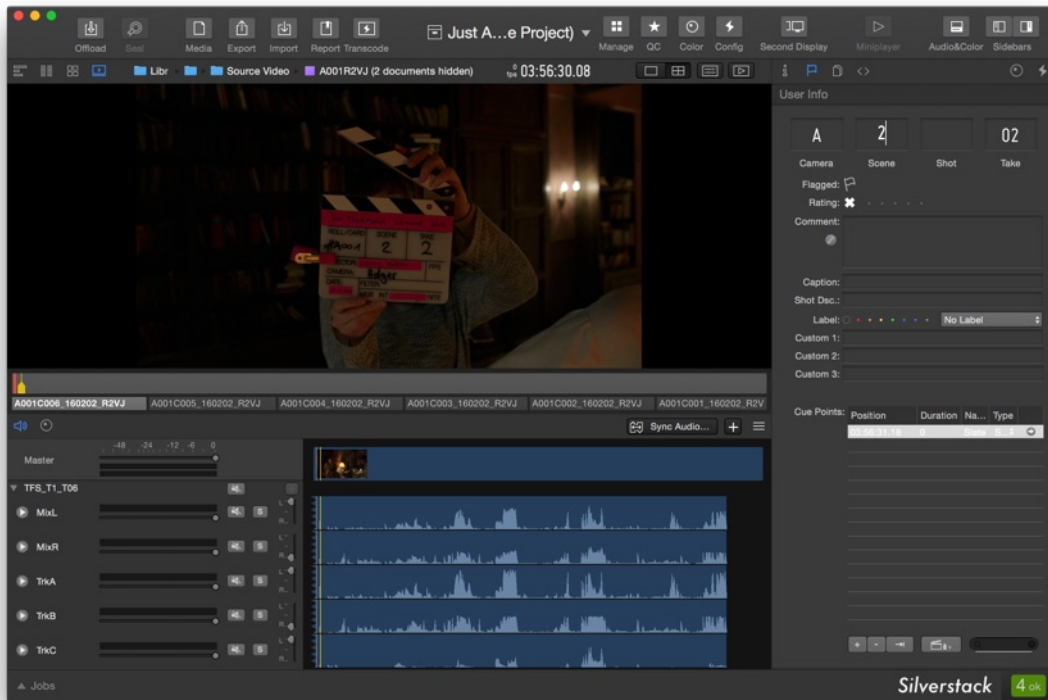



Fig. 4: External audio in the audio panel

Relocating Slate Markers

Audio

You can relocate the audio slate marker for an external audio clip by opening the audio tracks playback panel. That can be done by clicking the play button  that can be found on the left of the track name labels in the audio panel:

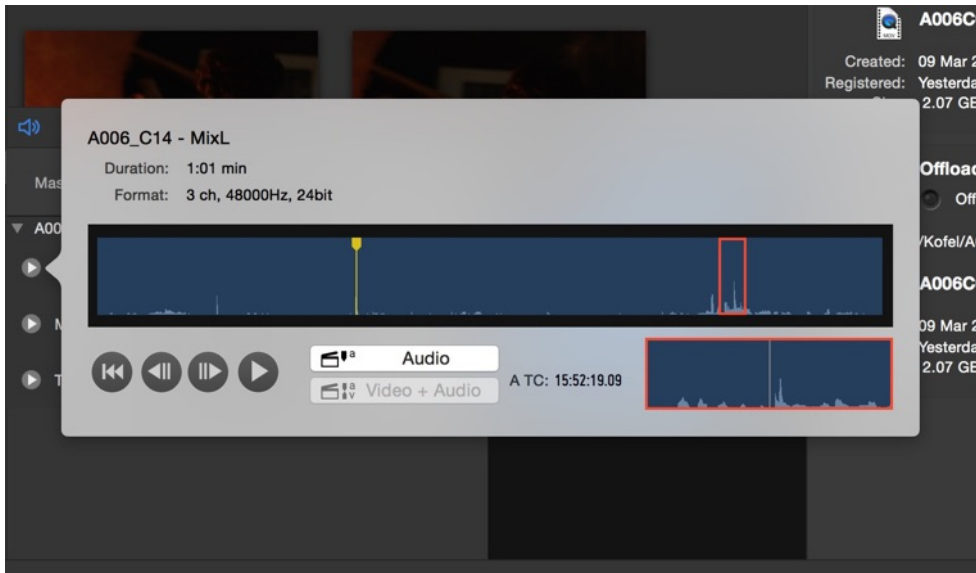



Fig 5: The audio tracks panel to listen to a single audio track

Move the detail indicator (red box) to a new position and click the button  **Audio** to set the audio slate to the position indicated by the playhead in the detail view at the bottom right of the popover.

Video

You can relocate the video slate marker within the cue points section of the User Info tab of the right bar:

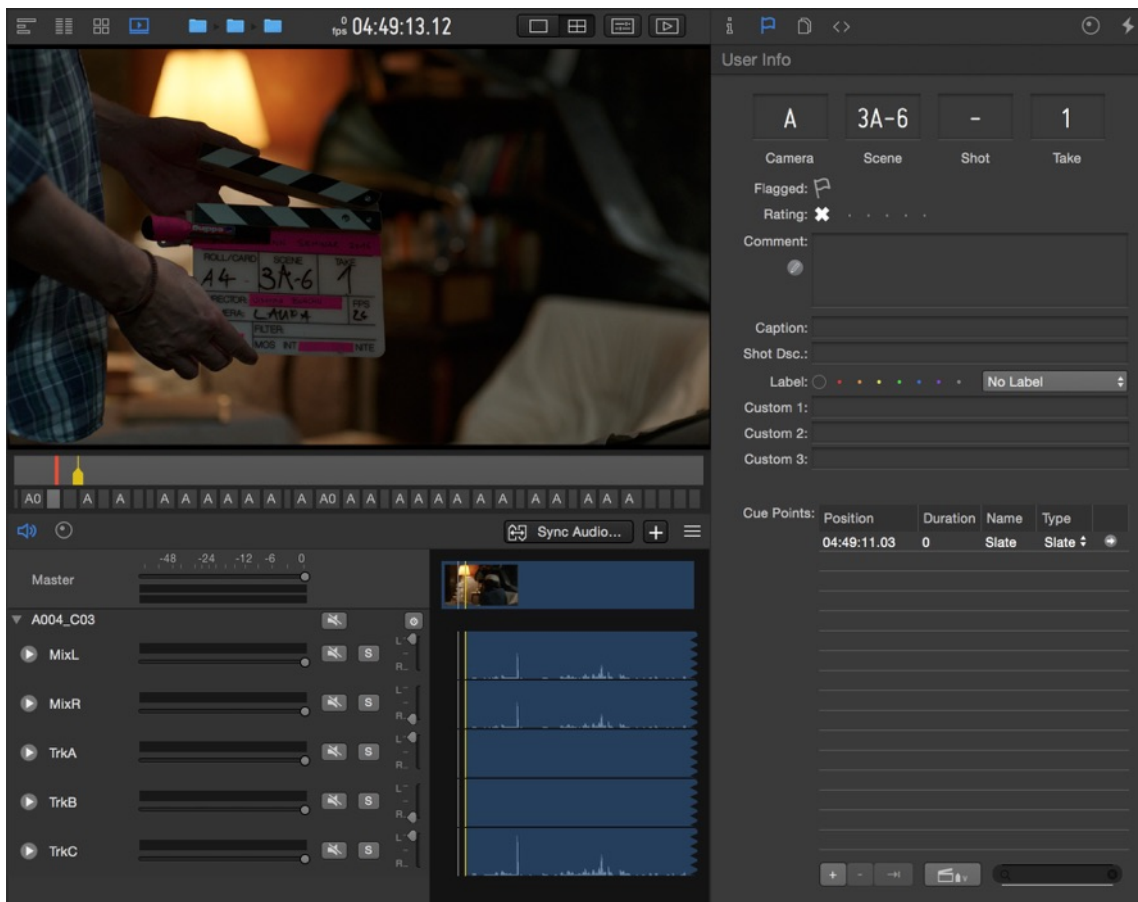



Fig.5: The video slate marker is a special cue point in the cue points section

Move the playhead of the video clip to a new position and click the “set video slate” button  in the cue points section of the User Info tab. Alternatively you can use the shortcut **Ctrl + Cmd + Enter** to set the video slate marker at the current position of the playhead.

Please note that the video slate marker is a special kind of cue point. You can remove the video slate marker like removing a cue point. In case of external audio existing you will not be able to remove it as a video clip will with external audio will always have a slate marker. Learn more about cue points from the article [Metadata Handling: View, Organize, Add and Filter Clips](#).

Removing External Audio Clips

External audio clips can be removed by clicking on the gear menu in the header bar of the external audio clip:



Fig. 6: Remove an audio clip from from inside the gear menu

- **Remove:** Removes the audio clip attached to the video clip.
- **Reveal:** Reveals the audio clip in its audio bin
- **Mid/Side:** Select the channels that should be used for mid/side stereophony

Audible Frame Stepping

When stepping through a video clip with audio frame by frame with the arrow keys you will be able to hear audio for every frame.

To deactivate audible frame stepping go to the “**Playback**” menu in the Main Menu and deselect “**Audible Frame Stepping**”

Transcoding in Silverstack and Silverstack XT

Overview


The transcoding functionalities of Silverstack have been updated with Silverstack 6. The update contains a faster transcoding engine, an updated user interface, more transcoding options and a lot more (details below).

Silverstack separates the configuration of the transcoding settings from the actual starting of a transcoding job:

- The section “**Transcoding Configurations**” will explain how to adjust the settings for your transcoding job.
- The section “**Starting a Transcoding Job**” will explain how to execute a transcoding job.

Transcoding Configurations *

Silverstack XT offers multiple custom transcoding configurations while Silverstack offers one custom transcoding configuration.

The transcoding settings can be found in the transcoding tab of the right bar. Click the transcoding icon  to access the transcoding tab:

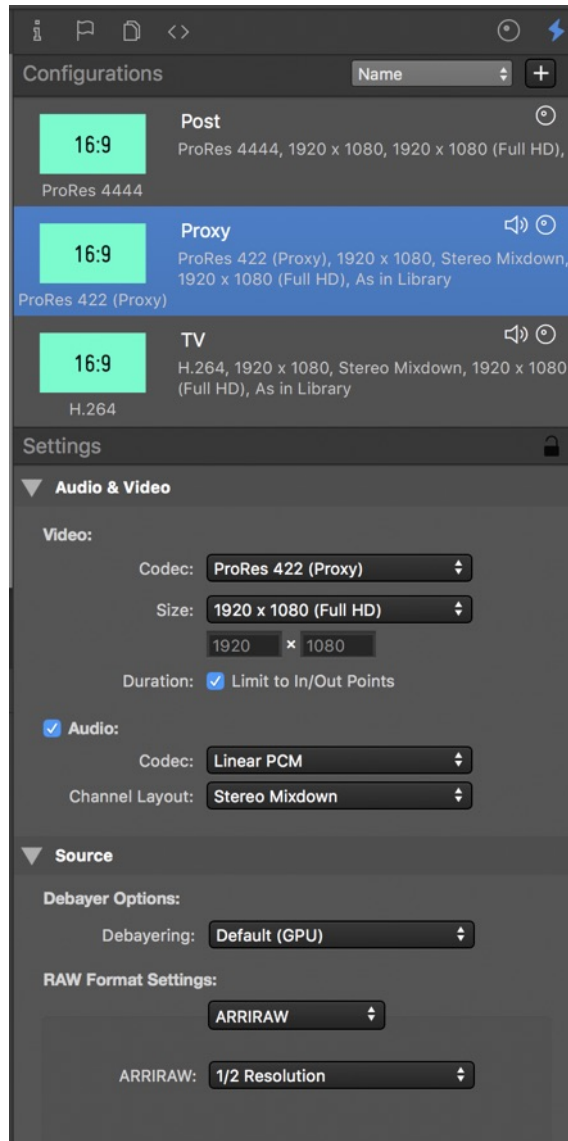


Fig. 1: Configure the transcoding settings in the transcoding tab of the right bar

The upper part of the transcoding tab shows the custom transcoding configurations. The lower part shows the detailed settings for the selected configuration. The settings will be applied and stored to the configurations immediately.

Locking Transcoding Configurations

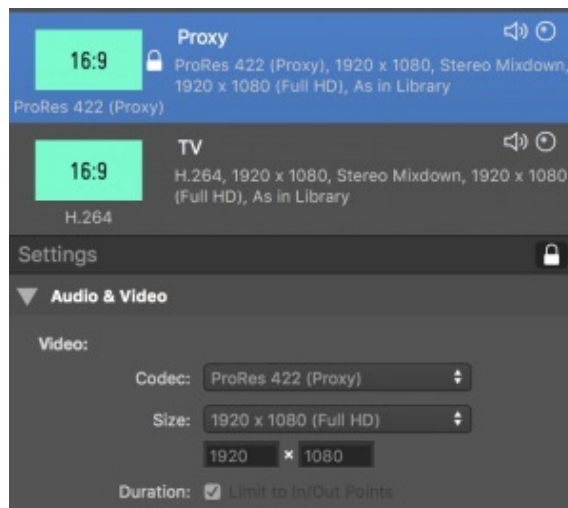


Fig.2: Locking transcoding configurations

Transcoding configurations can be locked to avoid changes to them by clicking the lock icon on the right side of the “Settings” header bar. Locked configurations will be shown with a white lock icon in the table*.

Transcoding Settings

Audio & Video

Video

- **Codec:** Select the output codec depending on your requirements. There are different options available (also shown in Fig. 3):
 - H.264 (Quicktime Container)
 - H.265 / HEVC (Quicktime Container, available starting from macOS 10.13)
 - ProRes 4444
 - ProRes 422
 - ProRes 422 (HQ)
 - ProRes 422 (Proxy)

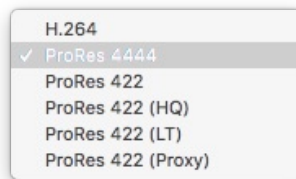


Fig. 3: Available transcoding options

- **Container:** Select the container for the file. The following options are available:
 - **Quicktime (.mov):** Available for all codecs (ProRes, H.264, HEVC)
 - **MP4 (.MP4):** Available for H.264 and HEVC codecs.
- **Size (for H.264 and ProRes):** This drop down menu allows you to select the final resolution of the transcoded clips:

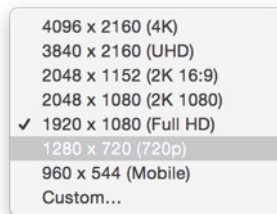


Fig. 4: Available frame sizes

- **H.264 Bitrate Options:**

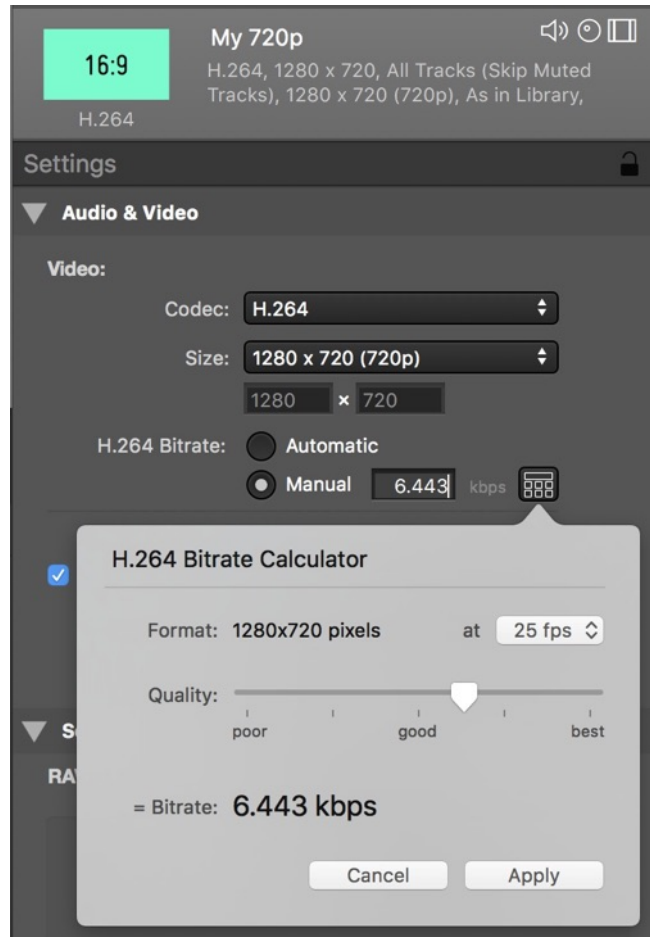


Fig. 4b: The H.264 bitrate calculator

The H.264 manual bitrate options allow you to enter a **specific bitrate in the textfield** or provide help for a **choice of quality in the “H.264 bitrate calculator”** (see fig. 4b).

The bitrate calculator lets you choose the intended quality from **“poor” through “good” to “best”** and calculates the resulting bitrate based on the selected resolution and the intended frame rate.

- **Duration (Limit to In/Out points):** By enabling this option Silverstack only transcodes the part of the clip between the in and out points set in the library.

Audio

Tick the checkbox to include audio in your transcoded clips.

- **Format:**
 - Linear PCM
 - ACC – Good Quality **
 - ACC – High Quality **
- **Channel Layout:**
 - Stereo Mixdown: The custom audio mix created in the audio panel

Source

Choose different decoding options for the source formats:

- ARRIRAW:
 - 1/2 resolution
 - Full resolution
- SONY RAW
 - 1/4 resolution
 - 1/2 resolution
 - Full resolution



- REDCODE RAW
 - 1/8 resolution
 - 1/4 resolution
 - 1/2 resolution
 - Full resolution
- Canon RAW
 - Quality:
 - Full Resolution
 - 1/2 Resolution
 - 1/4 Resolution
 - Debayer Mode:
 - High Speed
 - High Quality
- AVC-Intra / XAVC
 - 1/2 resolution
 - Full resolution
- ProRes
 - 1/4 resolution
 - 1/2 resolution
 - Full resolution
- Panasonic V-RAW
 - Soft (GPU)
 - Default (GPU)
 - AHD (CPU)
- Phantom Cine
 - Soft (GPU)
 - Default (GPU)
 - AHD (CPU)
- Cinema DNG
 - Soft (GPU)
 - Default (GPU)
 - AHD (CPU)
- Blackmagic RAW
 - 1/8 resolution
 - 1/4 resolution
 - 1/2 resolution
 - Full resolution

Compositing

- **Resizing:**
 - **Fitting Strategy:**
 - The *zoom to fit* (*Adding black bars/Without black bars*) option will adjust the horizontal resolution of the clip to fit in the selected final size.
 - *Zoom to fill* will affect the vertical resolution of the footage to the final size, cropping the sides.
 - *1 to 1* will zoom the footage to 100% in the center of the image to adjust to the final selected size, cropping everything else.



zoom to fit (adding black bars)



zoom to fit (without black bars)



zoom to fill



1:1

Fig. 5: resizing example results

- **Grading:**
 - **Look Source:** Choose how to manage the color data for the clip:
 - *As set in Library:* enable this setting to include the looks applied to the clip in the Library. For more information on how to apply looks, please check the article [The Silverstack Look Library](#).
 - *None:* Disables the color processing and transcodes the clips unmodified (as recorded).
 - *From file:* Reads the clip metadata and applies the color processing described in the embedded looks. In case there is no look embedded, Silverstack applies the default Log to Rec.709 conversion for the specific format.

Overlays

- **Burn Ins:** Choose from two different options to burn into the transcoded clip:

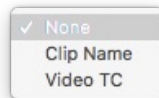


Fig. 6: Burn in options

- **Burn in Parameters:** The following parameters can be adjusted for the burn ins:
 - **Margins:** A horizontal and vertical margin to position the burn ins in the frame.
 - **Font:** Sets the font style for the burn ins.
 - **Font Size:** Sets the font size in pt.
 - **Transparency:** Sets the transparency level for the burn ins.
 - **Text Color:** Sets the text color to “**White**” or “**Black**”
 - **Background:** Sets the background to a “**Box**” shape, adds an “**Outline**” to the text or with “**None**” adds no background.
- **Image Overlay:** Choose an image overlay (.png, .jpg, .tiff) to be burned into the transcoded clips.
- **Image Overlay Parameters:**
 - **Size:** Sets the size of the image (0 -100 %)
 - **Position X:** Sets the position in horizontal direction
 - **Position Y:** Sets the position in vertical direction
 - **Transparency:** Sets the transparency (0 – 100 %)

The Transcoding Preview

When the transcoding tab in the right bar is showing Silverstack automatically switches to a transcoding preview to be shown in the playback view:

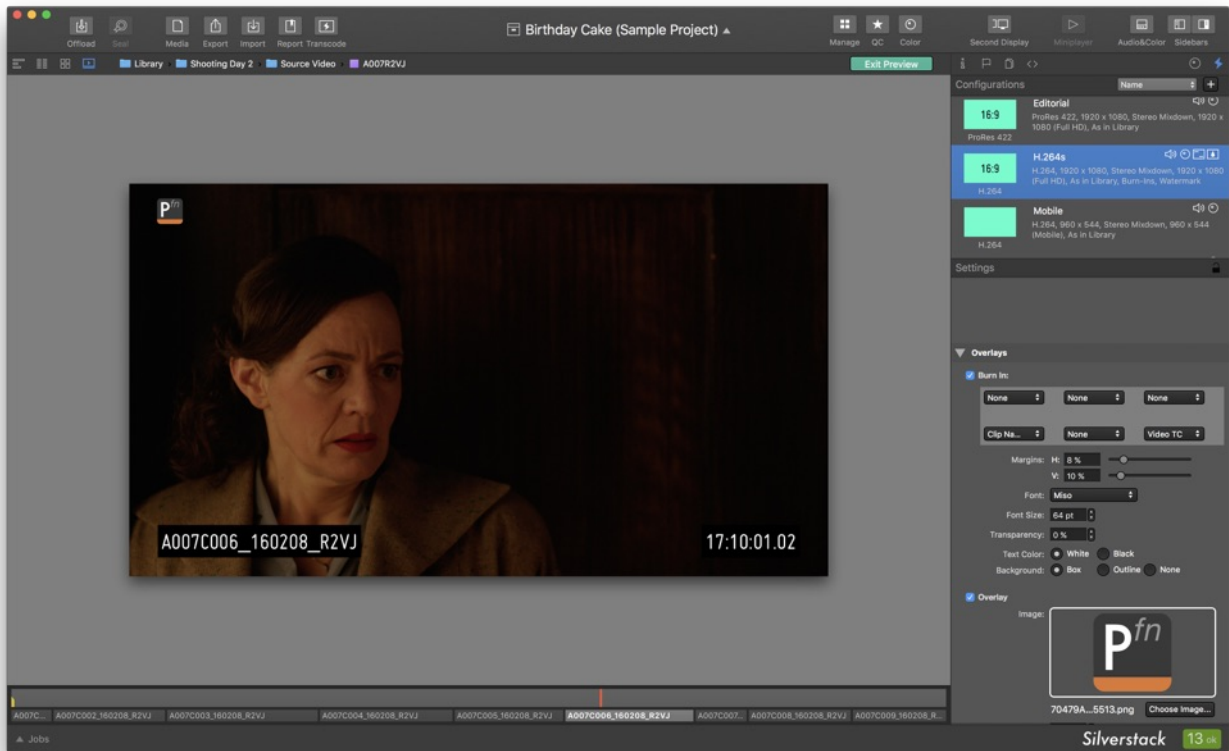
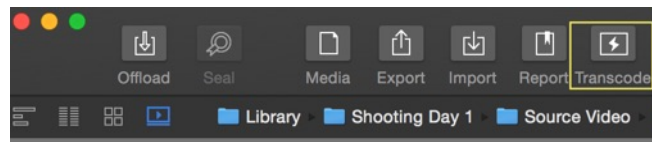


Fig. 7: The transcoding preview

The transcoding preview displays a preview of the transcoding configurations applied to the currently selected clip.

Starting a Transcoding Job



The «Transcode» button

In order to start transcoding the clips, first select a folder or bin in the Library panel. Then click on Transcode to open the wizard. There you will be able to select the clips you want to transcode. Click on continue to select the destination and transcoding settings.

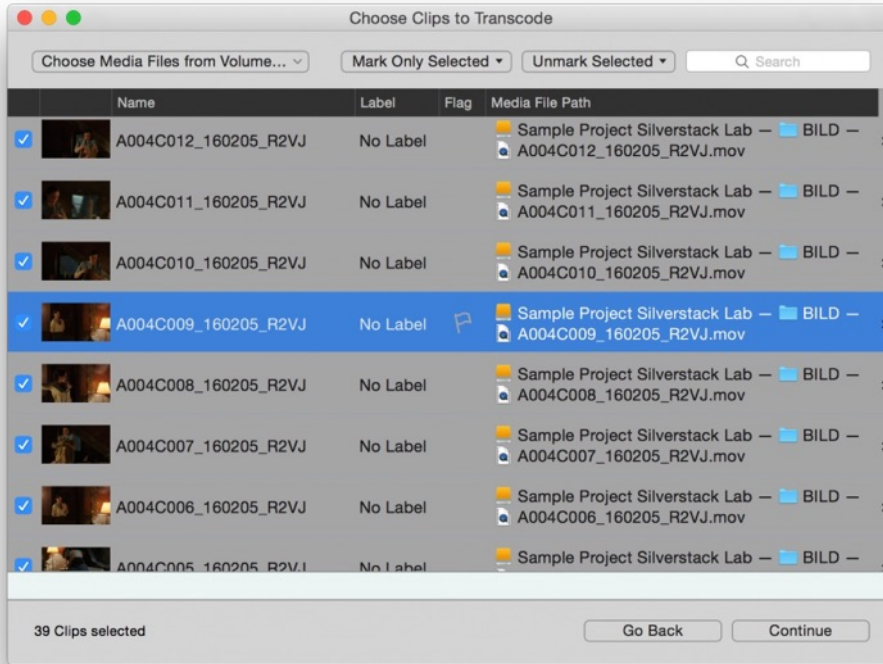


Fig. 8: clip selection wizard

Now you are able to select where the transcoded clips will be stored. You can add and remove destinations by using the «+» and «-» buttons. Alternatively, it's also possible to modify each destination path and path wildcards. You can select from the configurations previously configured in the transcoding configurations tab:

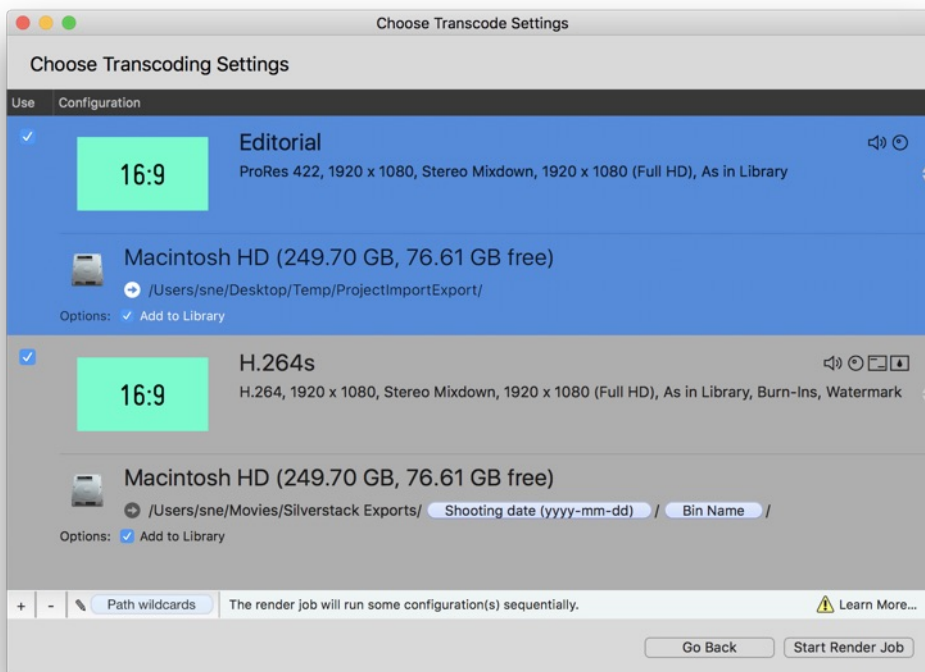


Fig. 9: The transcoding destination step

Click the current configuration to open the list of all available transcoding configurations:



Fig. 10: The transcoding configurations dropdown

When the checkbox “Add to Library” is checked the transcoded clips will automatically be ingested into the Silverstack Library after the transcoding job is done. Transcoding statistics will be available for the clips in the statistics view.

Click “**Start Render Job**” to start the render job. It can then be traced in the jobs panel.

Path Wildcards for Transcode Destinations

Path Wildcards can be used to customize the transcoding path with available metadata. Click the “**Path wildcard**” icon in the status bar (see fig. 13) to access the path wildcards settings for the selected destination:

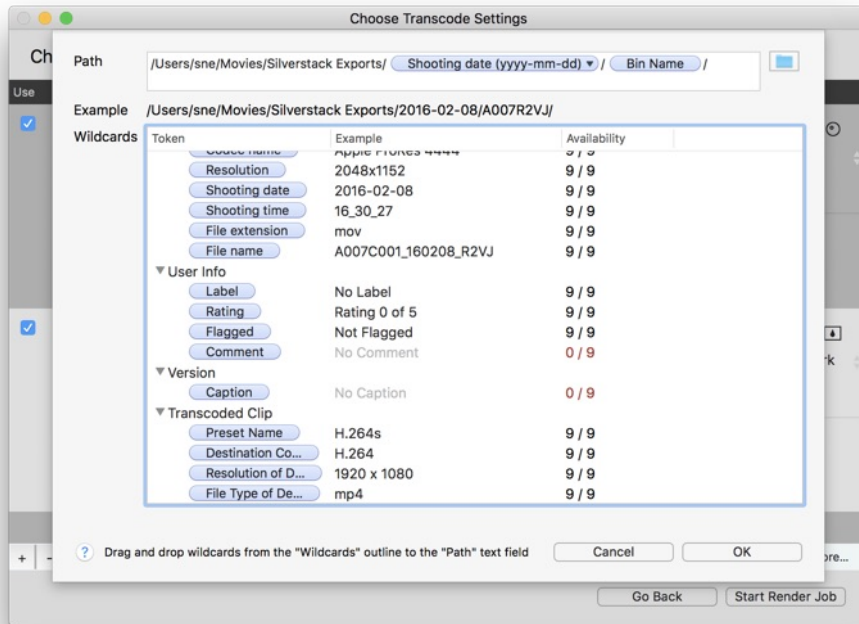


Fig. 11: The path wildcard window

It is also possible to rename the transcoded clips by leaving out the “/” and optionally also adding a file extension. Here’s an example:

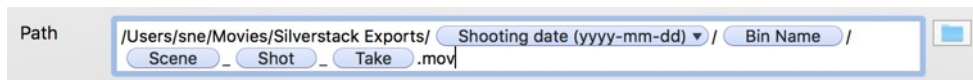


Fig. 12: Path wildcards for transcoding destinations

Hint: It is also possible to copy and paste path wildcards like plain text.

Multi Destination Transcoding*

Silverstack XT is able to transcode to multiple destination formats at a time. In certain cases (see below), the transcoding of the configurations has to be run sequentially. The transcoding wizard will give you a hint if the transcoding will be run in parallel or sequentially:

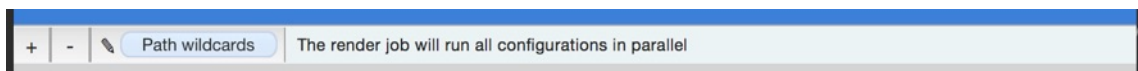


Fig. 13 : The info message about parallel or sequential transcoding

In case of sequential transcoding you can open the Wildcards for Transcodes panel to get details about the transcoding order.

The following settings can influence the parallel execution of the transcoding job:

- In/Out Points
- Debayer settings
- Decoding resolution

Make sure to set the above settings to the same value when transcoding to two different configurations to avoid sequential transcoding.

Management of Transcoding and Offload Jobs

Silverstack Lab is generally able to transcode and copy at the same time. Transcoding jobs as well as copy jobs run in the background while the app is still fully accessible.

Optionally you can choose to pause transcoding jobs when offloading and while playing back clips. To do so go to the “Copy&Jobs” tab in the Preferences and select the according checkbox “Automatically Interrupt

Transcoding Jobs during Playback and Offload”:

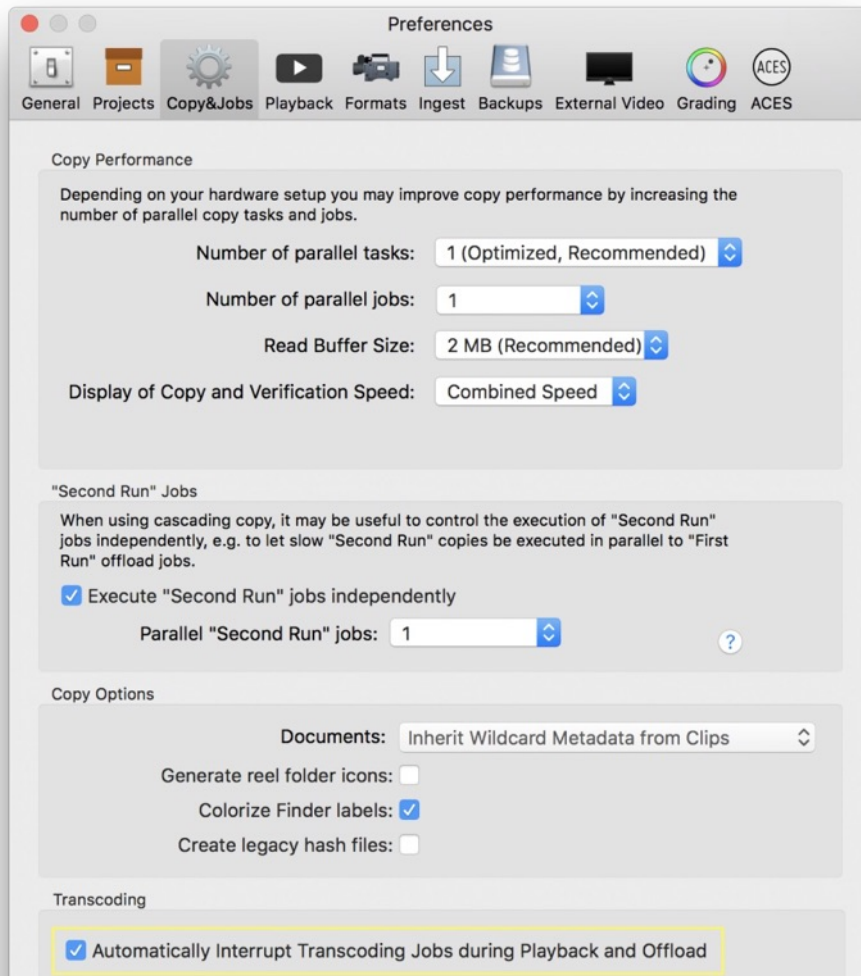


Fig. 14: The “Copy&Jobs” tab in the preferences

Transcoding Functionalities Overview for Silverstack and Silverstack XT

The transcoding functionalities of Silverstack have been updated with version 6. Silverstack and Silverstack XT come with a different set of functionalities concerning Transcoding.

- **Silverstack**
 - Single destination transcoding
 - One custom transcoding preset
 - Timecode and Clip Name burn in options
 - Watermarking
 - Transcoding resolution up to full HD (1920 x 1080)
 - Stereo mixdown audio channel layout for transcoded clip
- **Silverstack XT**
 - Multi destination transcoding
 - Many custom transcoding preset
 - Timecode and Clip Name burn in options
 - Watermarking
 - Transcoding resolutions higher than Full HD (1920 x 1080)
 - Stereo mixdown audio channel layout for transcoded clip
 - Transcoding statistics

* Silverstack XT only

**Only available for ProRes and H.264

UI Layouts: Quick Configurations for the Silverstack User Interface

Silverstack comes with 3 to 4 options * to automatically configure the user interface in a steadily defined way. Like this you will be able to switch to a certain UI configuration that is convenient for a particular task with one click.

Accessing the UI Layouts

The UI Layouts include the following configurations:

- Manage
- QC (Quality Control)
- Color
- Config (Transcoding Configurations) *

The UI Layouts can be configured from the shortcut buttons on the right side of the Silverstack toolbar:

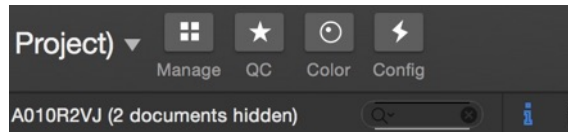


Fig. 1: The UI Layout shortcut buttons in the toolbar

Alternatively the UI Layouts can be accessed from the “**Window**” menu:

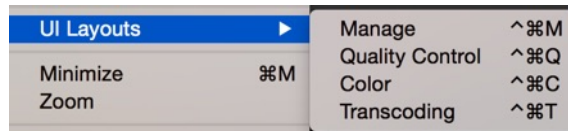


Fig. 2: The UI Layout shortcuts in the “Window” menu

UI Layouts with One Display

- **Manage:** Configures the UI in a convenient way for all kinds of management tasks.
 - Left bar: Shown (Library)
 - Center: Collection View
 - Right bar: General Info
 - Audio & Color panel: Hidden
 - Mini Player: Open

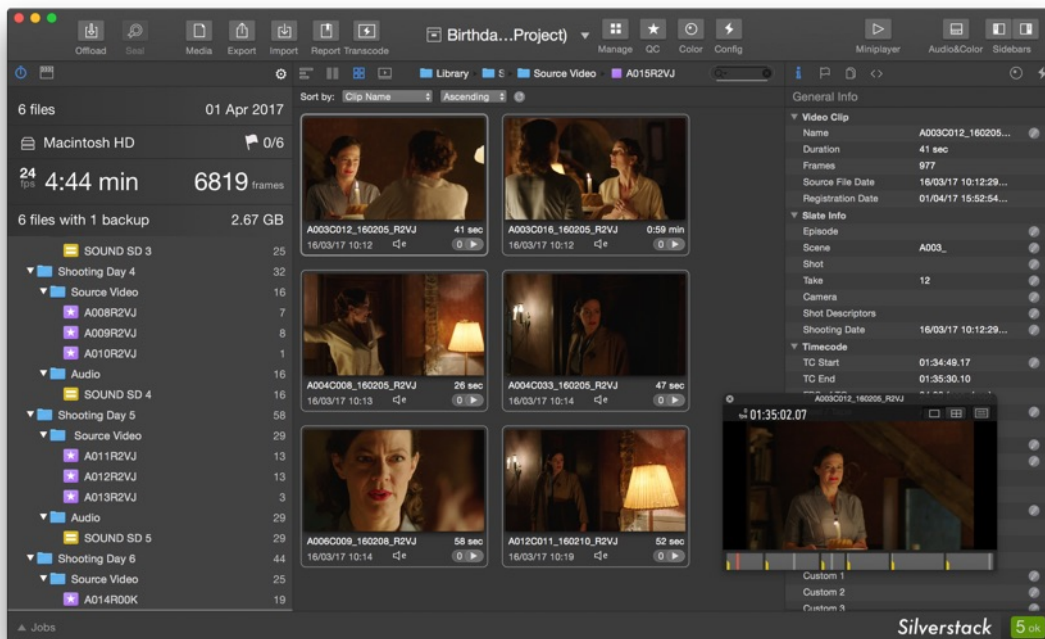


Fig. 3: UI Layout: Manage

- **QC (Quality Control):** Configures the UI in a convenient way for all kinds of quality control tasks.
 - Left bar: Hidden
 - Center: Player
 - Right bar: User Info tab
 - Audio & Color Panel: Audio

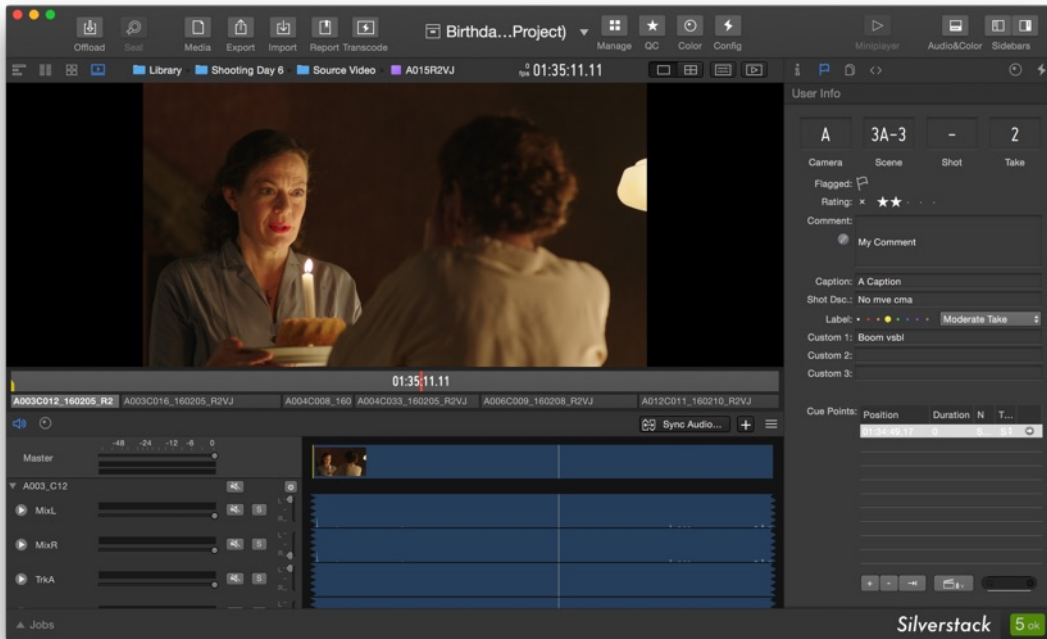


Fig. 4: UI Layout: QC

- **Color:** Configures the UI in a convenient way for color grading.
 - Left bar: Hidden
 - Center: Player
 - Right bar: Look Library
 - Audio & Color Panel: Color

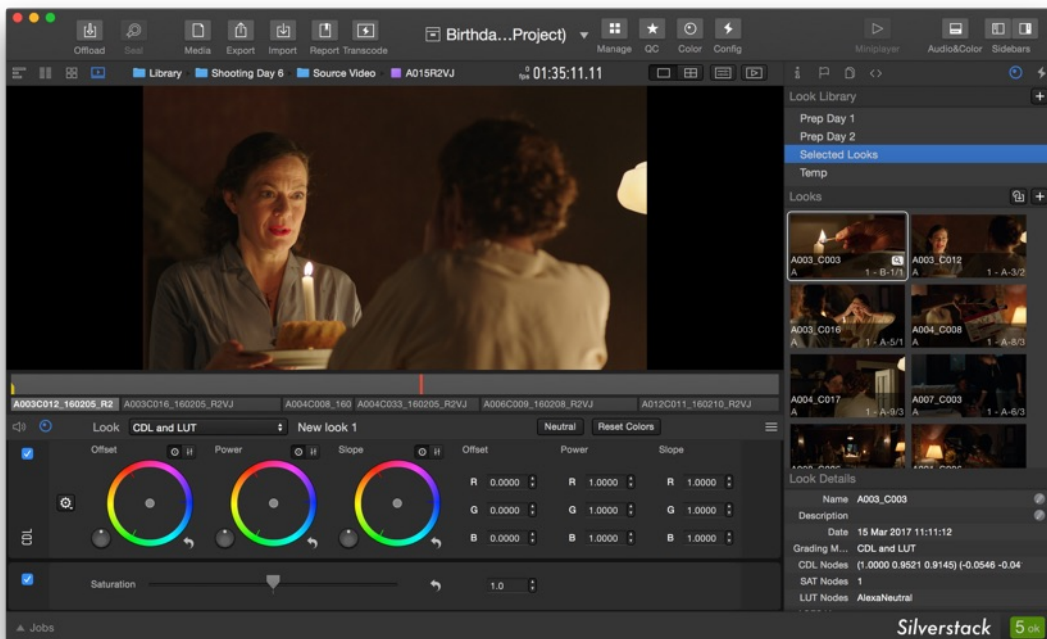


Fig. 5: UI Layout: Color

- **Config (Transcoding Configurations)*:** Configures the UI in a convenient way for adjusting transcoding configurations.
 - Left bar: Hidden
 - Center: Transcoding Preview
 - Right bar: Transcoding configurations
 - Audio & Color Panel: Hidden

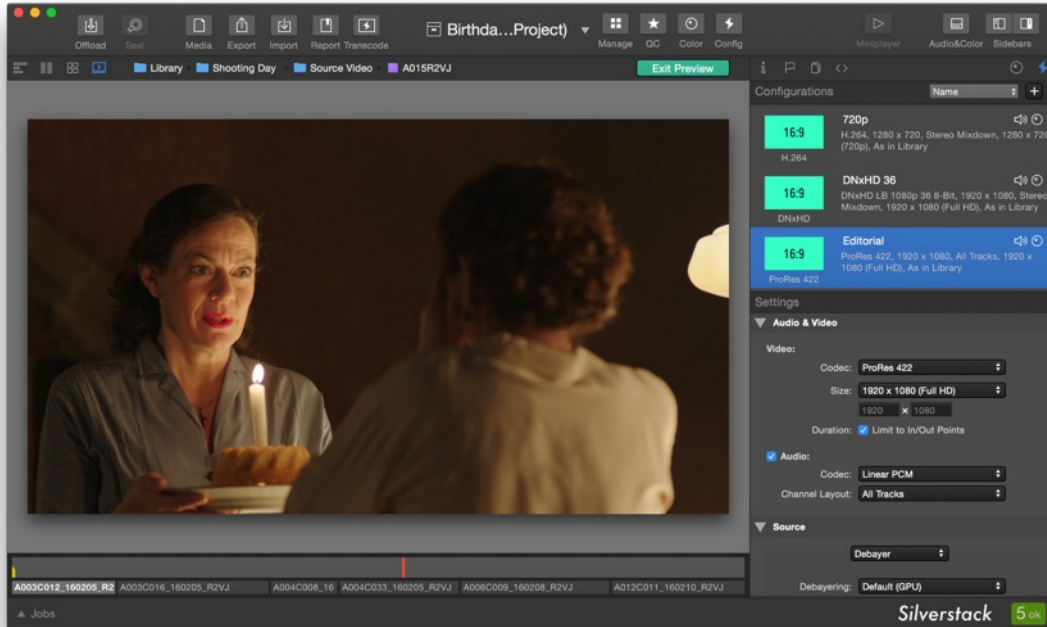


Fig. 6: UI Layout: Config

UI Layouts with Two Displays

The UI Layouts establish different configurations of the user interface when the second display is activated.

Please refer to the article [Second Display: Two Screen Working Environment](#) for more information about using a second display for the Silverstack UI.

*UI Layout “Config” (Transcoding Configurations) only available in Silverstack Lab.

Second Display: Two Screen Working Environment in Silverstack

Silverstack XT and Silverstack Lab offer the possibility to extend the Silverstack user interface to two screens.

Accessing the Second Display

When a second display is attached to your machine the “**Second Display**” button in the toolbar shows up:

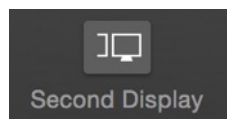


Fig. 1: The “Second Display” button in the toolbar

By clicking the button you can toggle the user interface to be shown on the second screen on and off.

Alternatively the UI on the second display can be enabled from the “**Window**” menu. Set a checkmark to the entry “**Second Display**” to activate it.

Second Display User Interface Options

The second display opens automatically on the screen that does not hold the Silverstack main window.

There are 3 content options for the second display:

- **List View of clips**

Preview	Name	Duration	Codec	File Type	Audio Tracks	TC Start	Reel/Tape	Source File Date	Shooting/Record...	Registration Date	Epis...	Scene	Shot	Take	Recorder Model	Recorder ID
	A001C00...	2:08 min	Apple ProRes...	mov	5 ext. tracks fro...	01:09:59.22	A001R...	09/03/17 09:57	02/02/16 10:41	15/03/17 11:42	TF...		04	Alexa	R2VJ	
	A001C00...	2:25 min	Apple ProRes...	mov	5 ext. tracks fro...	01:22:49.15	A001R...	09/03/17 09:57	02/02/16 10:54	15/03/17 11:42	TF...		05	Alexa	R2VJ	
	A001C00...	2:22 min	Apple ProRes...	mov	5 ext. tracks fro...	01:33:57.00	A001R...	09/03/17 09:58	02/02/16 11:05	15/03/17 11:42	TF...		06	Alexa	R2VJ	
	A001C00...	2:24 min	Apple ProRes...	mov		01:43:14.05	A001R...	09/03/17 09:59	02/02/16 11:14	15/03/17 11:42	TF...		07	Alexa	R2VJ	
	A001C00...	2:28 min	Apple ProRes...	mov	5 ext. tracks fro...	03:46:40.00	A001R...	09/03/17 10:00	02/02/16 13:18	15/03/17 11:42	TF...		01	Alexa	R2VJ	
	A001C00...	2:36 min	Apple ProRes...	mov	5 ext. tracks fro...	03:56:29.14	A001R...	09/03/17 10:01	02/02/16 13:27	15/03/17 11:42		2	02	Alexa	R2VJ	
	A002C00...	2:18 min	Apple ProRes...	mov	5 ext. tracks fro...	04:22:52.07	A002R...	09/03/17 10:01	02/02/16 13:54	15/03/17 11:42	TF...		04	Alexa	R2VJ	
	A002C00...	2:34 min	Apple ProRes...	mov	5 ext. tracks fro...	04:35:51.16	A002R...	09/03/17 10:02	02/02/16 14:07	15/03/17 11:42	TF...		05	Alexa	R2VJ	
	A002C00...	2:29 min	Apple ProRes...	mov	5 ext. tracks fro...	04:47:43.00	A002R...	09/03/17 10:03	02/02/16 14:19	15/03/17 11:42	TF...		06	Alexa	R2VJ	
	A002C00...	2:41 min	Apple ProRes...	mov	5 ext. tracks fro...	04:59:16.16	A002R...	09/03/17 10:04	02/02/16 14:30	15/03/17 11:42	TF...		07	Alexa	R2VJ	
	A003C00...	39 sec	Apple ProRes...	mov		00:04:35.22	A003R...	09/03/17 10:05	05/02/16 09:58	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	41 sec	Apple ProRes...	mov		00:08:19.00	A003R...	09/03/17 10:05	05/02/16 10:01	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	30 sec	Apple ProRes...	mov	5 ext. tracks fro...	00:24:21.13	A003R...	09/03/17 10:05	05/02/16 10:17	15/03/17 11:43	1	3	B-1	1	Alexa	R2VJ
	A003C00...	30 sec	Apple ProRes...	mov		00:24:21.13	A003R...	16/03/17 10:11	05/02/16 10:17	16/03/17 10:19	1	AD...	B-1	03	Alexa	R2VJ
	A003C00...	31 sec	Apple ProRes...	mov		00:27:35.04	A003R...	09/03/17 10:06	05/02/16 10:20	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	28 sec	Apple ProRes...	mov		00:53:49.11	A003R...	09/03/17 10:06	05/02/16 10:47	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	29 sec	Apple ProRes...	mov		00:55:31.09	A003R...	09/03/17 10:06	05/02/16 10:48	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	33 sec	Apple ProRes...	mov		00:57:06.17	A003R...	09/03/17 10:06	05/02/16 10:50	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	29 sec	Apple ProRes...	mov		01:07:10.01	A003R...	09/03/17 10:07	05/02/16 11:00	15/03/17 11:43				Alexa	R2VJ	
	A003C00...	33 sec	Apple ProRes...	mov		01:10:32.14	A003R...	09/03/17 10:07	05/02/16 11:03	15/03/17 11:43				Alexa	R2VJ	
	A003C01...	48 sec	Apple ProRes...	mov		01:31:57.00	A003R...	09/03/17 10:07	05/02/16 11:25	15/03/17 11:43				Alexa	R2VJ	
	A003C01...	8 sec	Apple ProRes...	mov		01:34:20.09	A003R...	09/03/17 10:08	05/02/16 11:27	15/03/17 11:43				Alexa	R2VJ	
	A003C01...	41 sec	Apple ProRes...	mov	5 ext. tracks fro...	01:34:49.17	A003R...	09/03/17 10:08	05/02/16 11:28	15/03/17 11:43	1	3	A-3	2	Alexa	R2VJ
	A003C01...	41 sec	Apple ProRes...	mov		01:34:49.17	A003R...	16/03/17 10:12	05/02/16 11:28	16/03/17 10:19	1	AD...	A-3	12	Alexa	R2VJ
	A003C01...	41 sec	Apple ProRes...	mov	5 ext. tracks fro...	01:34:49.17	A003R...	16/03/17 10:12	16/03/17 10:12	01/04/17 15:52	3A-3	-	2			
	A003C01...	45 sec	Apple ProRes...	mov		01:37:39.01	A003R...	09/03/17 10:08	05/02/16 11:31	15/03/17 11:43				Alexa	R2VJ	
	A003C01...	43 sec	Apple ProRes...	mov		01:51:27.22	A003R...	09/03/17 10:08	05/02/16 11:44	15/03/17 11:43				Alexa	R2VJ	
	A003C01...	52 sec	Apple ProRes...	mov		02:16:22.13	A003R...	09/03/17 10:09	05/02/16 12:09	15/03/17 11:43				Alexa	R2VJ	
	A003C01...	0:59 min	Apple ProRes...	mov	5 ext. tracks fro...	02:35:21.19	A003R...	09/03/17 10:09	05/02/16 12:28	15/03/17 11:43	1	3	A-5	1	Alexa	R2VJ

Fig. 2: The List View on the Second Display

- **Collection View of clips**

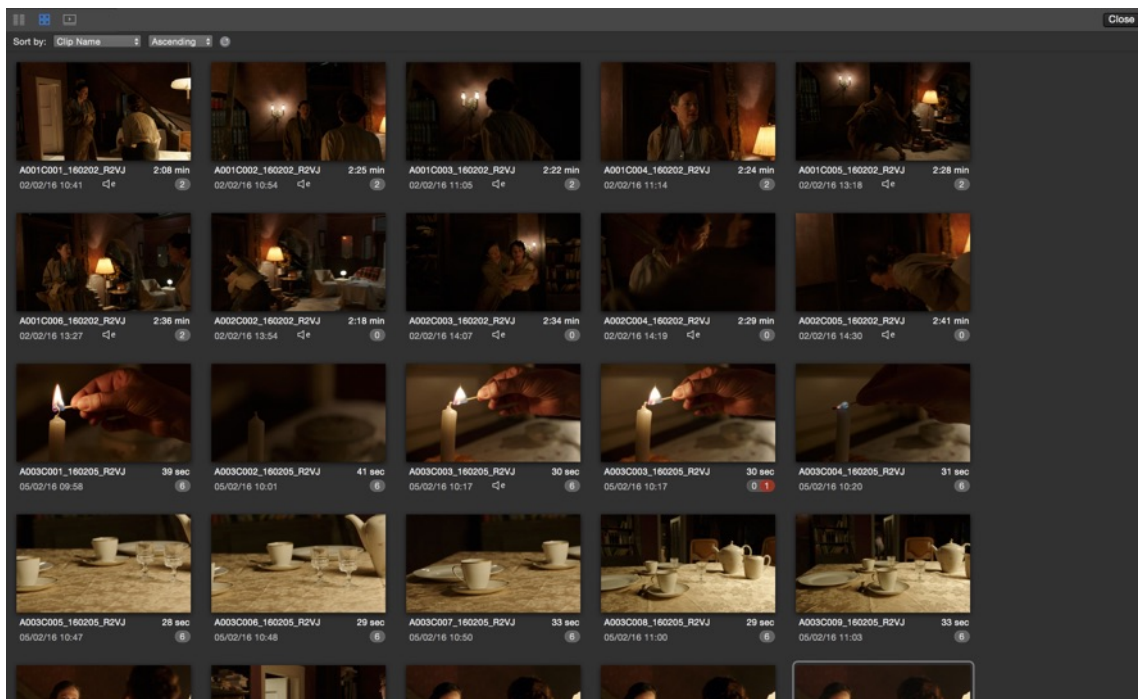


Fig. 3: The Collection View on the Second Display

- **Player View**



Fig. 4: The Player View on the Second Display

Silverstack automatically adapts the interface to avoid a simultaneous display of the same element (List View, Collection View, Player View) in both the main window and the second screen. When an element is accessed that is already shown in the other display it is automatically flipped with the previously shown element on the first screen.

Transfer of Project Settings

Silverstack allows to export and import project settings to transfer them to new projects or different machines. This can e.g. help to move project settings from established projects to new projects to avoid setting up from scratch. Other use cases involve the transfer of transcoding configurations from Silverstack XT or Lab to new projects or other machines.

Which Settings Can Be Transferred ?

The settings transfer involves certain project based settings as well as global settings. Find the settings that can be transferred below.

Project settings:

- Folder Structure
- Smart Folders
- Transcoding Configurations
- Copy Job Templates

Global settings:

- Table View Presets
- Format Options

Export and Import of Project Settings

To export or import project settings go to the Silverstack Main Menu and select **“File > Project Settings > Export... / Import...”**:

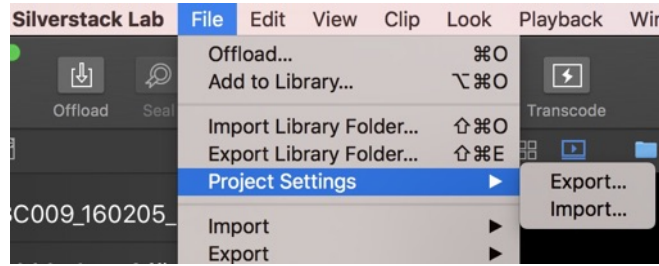


Fig. 1: Export and Import of Project Settings

You can choose the content to be exported after clicking on “**Export...**”:

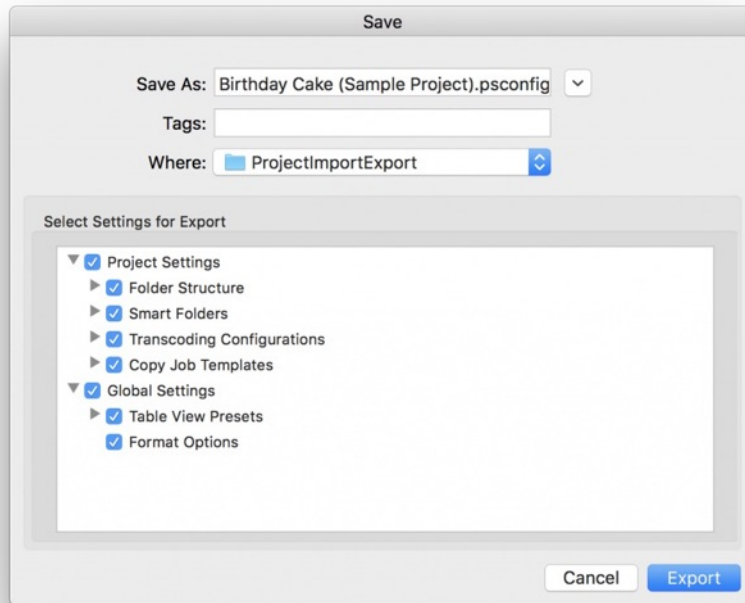


Fig. 2: Export project settings options

Here are the details about the different export options:

Project settings:

- **Folder Structure:** Transfer the folder structure of your Silverstack library to a new project. All top level folders can be selected for the export.
- **Smart Folders:** Transfer your custom [smart folders](#) to a new project.
- **Transcoding Configurations:** Transfer your [custom transcoding configurations](#) to a new project*
- **Copy Job Templates:** Transfer your [custom copy job templates](#) saved in the offload wizard to a new project.

Global settings:

- **Table View Presets:** Transfer your [table view presets](#) (of the main table of clips and metadata) to a new project.
- **Format Options:** Transfer the settings of the [“Format Options” in the Silverstack preferences](#) to a new project.

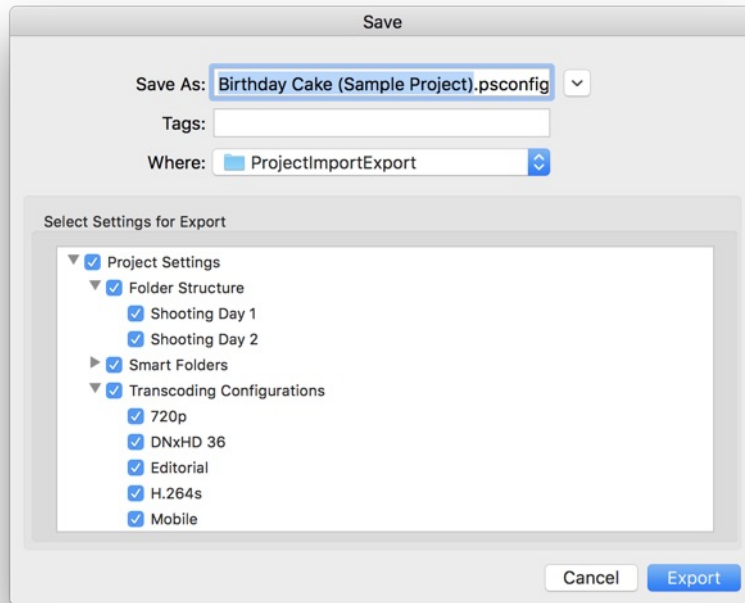


Fig. 3: Example of the project settings export wizard including folders and transcoding configurations

Click **“Export”** to save the .psconfig (project settings configurations) file containing the project settings information to the selected destination.

The export and import settings windows are symmetrical hence you can choose which content to write to the .psconfig file as well as which content to import from a .psconfig file.

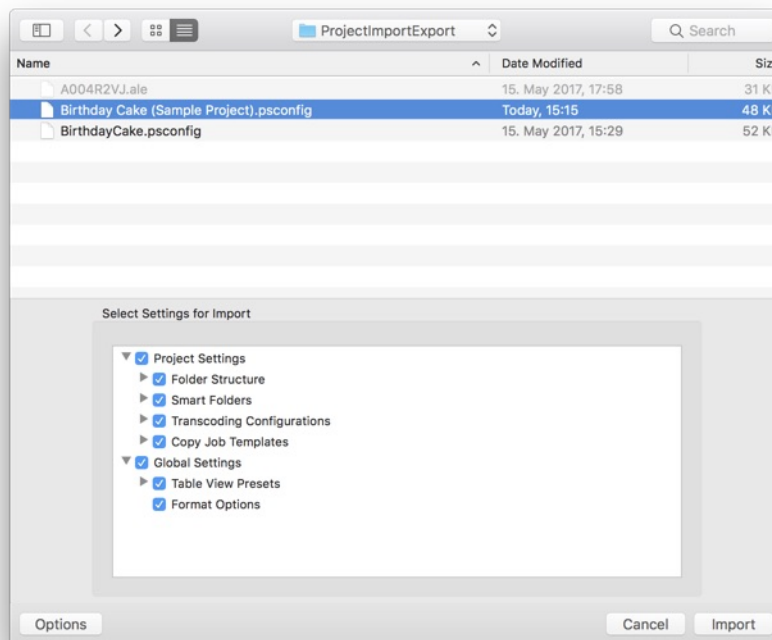


Fig. 4: Example of the project settings import window

Setting a Default Template for New Projects

Additionally to the export and import of project settings you can define a .psconfig file that should be used as a template to create new projects.

First export a project settings file as described above and include all the settings the default template for new projects should contain.

Then go to the Silverstack preferences by choosing “**Silverstack/Silverstack Lab > Preferences...**” in the Main Menu.

In the “**General**” tab of the preferences you can click “**Choose...**” to select the default .psconfig file for new projects:

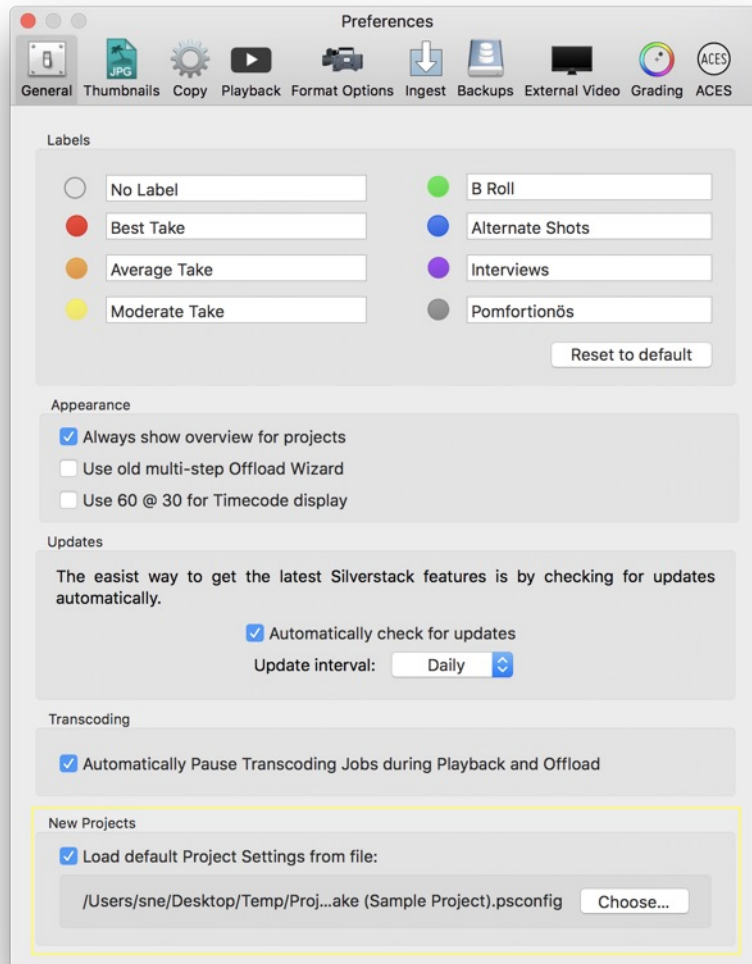


Fig. 5: Choose the .psconfig file the default project settings for new projects should be loaded from.

When you now create a new project in the toolbar or from the “**File**” menu (“**File > New Project...**”) all contents of the selected .psconfig file will be loaded as default for the new project.

Additionally to the manual process of loading the default .psconfig file in the preferences you can copy a .psconfig file named “**defaults.psconfig**” to the library folder to be taken as the default template:

For Silverstack 6: ~/Library/Application Support/Pomfort/Silverstack6

For Silverstack Lab 6: ~/Library/Application Support/Pomfort/SilverstackLab6

Attention: Please be aware that the .psconfig file in this location will overrule the UI settings.

The .psconfig files are generally compatible throughout the different Silverstack versions Silverstack, Silverstack XT and Silverstack Lab. Please be aware though, when importing transcoding configurations from Silverstack Lab into Silverstack XT that restrictions due to incompatible features such as e.g. DNx transcoding only available in Silverstack Lab might apply.

*Only available for Silverstack XT and Silverstack Lab as the basic version of Silverstack does not support custom transcoding configurations.

Crop Clips

Silverstack allows to crop clips to a custom aspect ratio. Cropping is non-destructive as long a crop setting is not used for transcoding.

Cropping can be set via the “Crop” popover in the General Info tab on the right side of the main window. Learn more about the right sidebar in the article [The Information Panel](#).

Crop Clips to a Custom Aspect Ratio

Go to the “**General Info**” Tab and scroll down to the “**Processing**” section where you can find the “**Crop**” entry.

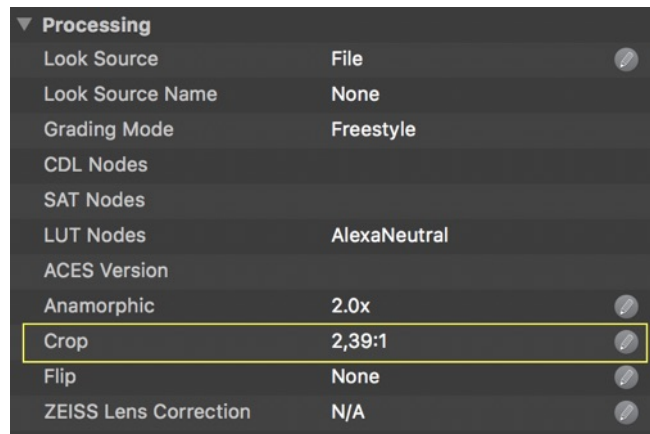


Fig. 1: Crop in the Processing section

Click the little grey button with the pencil to open the popover:

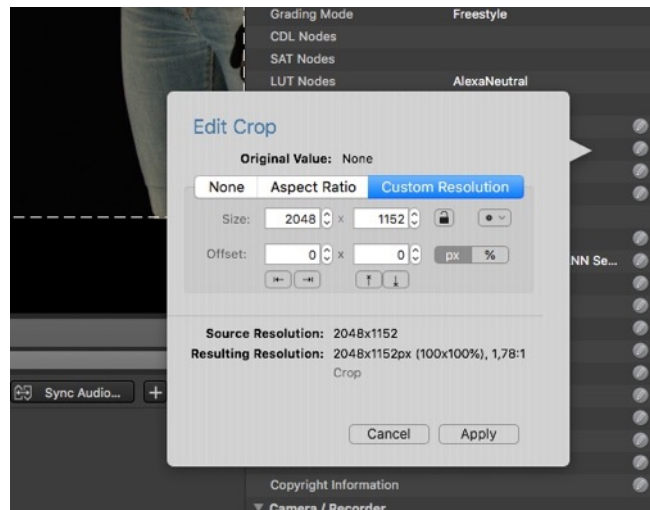


Fig. 2: The Crop popover in the General Info

Crop Options

There are 3 tabs and therefore 2 crop options available:

- Selecting “**None**” and clicking “Apply” will make sure to remove all crop settings from the selected clip.
- Crop to an **Aspect Ratio**
- Crop to a **Custom Resolution**

Crop to an Aspect Ratio

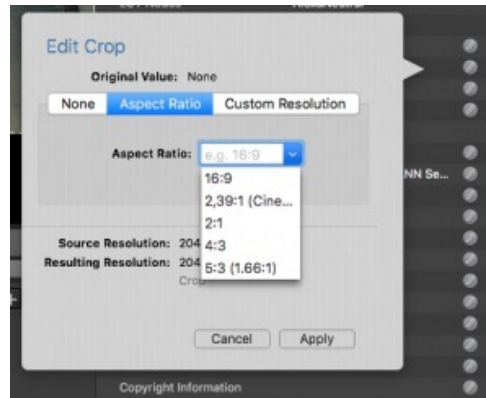


Fig.3

Select the second tab “Aspect Ratio” and enter a custom aspect ratio into the combo box or select one from the list of presets.

Crop to a Custom Resolution

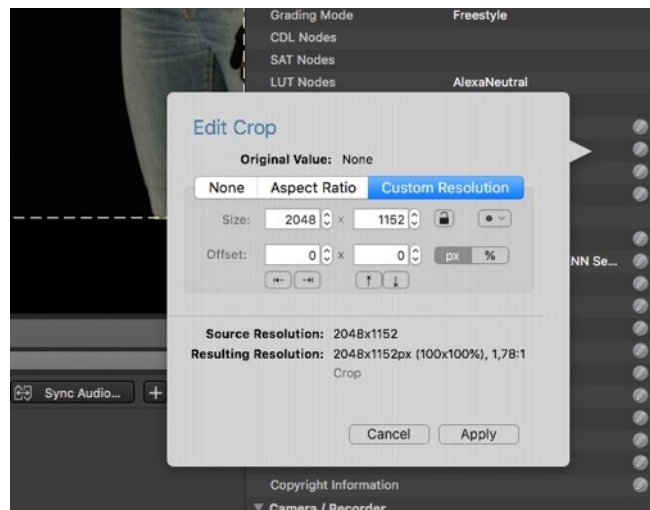


Fig.4

Select the third tab “Custom Resolution”.

The following controls are available:

1. **Size:** You can enter a custom pixel resolution to crop to. The specified pixel resolution will be cropped out by default from the center of the image.
2. **Aspect Lock:** You can lock the resolution to a certain ratio when changing horizontal or vertical size.
3. **Recents:** The gear menu shows recently used sizes for a quick selection
4. **Offset:** Specify a horizontal and vertical offset from the center cropped size
5. **Quick Offset Buttons & Re-Center:** The quick offset arrow keys enable a one-click shift of the cropped area to the respective image margins. If an offset is entered the “o” button appears and helps to remove the offset to re-center the cropped area.
6. **px/% Switch:** You can switch between specifying a custom crop resolution in pixels or percentage values.

Click “Apply” to crop the current image to the specified crop.

Source and Resulting Resolution

The “Source Resolution” and “Resulting Resolution” give you information about the original and the resulting image resolution:

- “Source Resolution”: Native resolution of the clip. Also displayed in the General Info in the right tab under “Format -> Resolution”
- “Resulting Resolution”: The cropped and/or desqueezed resolution.
 - The factors relevant for the calculation of the Resulting Resolution are displayed below (e.g. “Desqueeze (2.0) and Crop”).

- The resulting percentage of the original image is displayed in brackets. The resulting aspect ratio follows.

Please be aware that the decoding resolutions of the player do not affect the calculations of resolutions in the “Crop” popover.

Highlighting of Cropped Area in the Playback View

While setting the crop in the popover the area that will be cropped is highlighted in the playback view and updates live while changing crop settings.

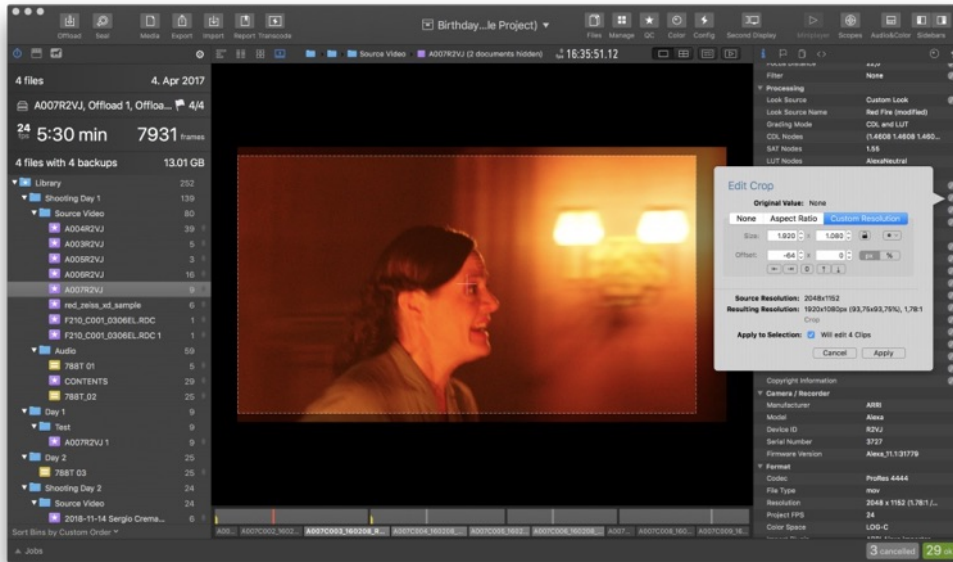


Fig 5: The crop area shows in the image

Apply Crop to Multiple Clips

To apply a crop to two or more clips select multiple clips from the table view and open the “Crop” popover:

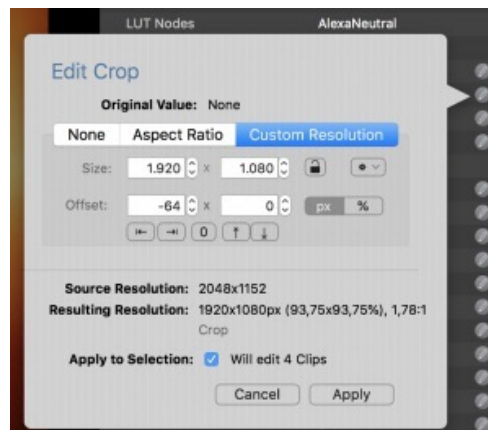


Fig. 6: Multi edit for crop

The number of altered clips is displayed in the popover (see “Will edit 4 Clips” in Fig. 6) . Click “**Apply**” to apply the set crop factor to all selected clips.

Tags: crop, multi edit, multiedit, aspect ratio, custom resolution

Extracting LTC from Internal Audio in Silverstack and Silverstack Lab

Linear (or Longitudinal) timecode (LTC) is an encoding of SMPTE timecode data in an audio signal.

The process of feeding LTC into the audio channel of a camera from external sources (such as timecode devices), is often used for cameras that either cannot handle external TC sync and/or do not provide proper timecode to the

recorded clips. It offers the possibility to include such cameras in a workflow that requires synchronous timecode.

The timecode data existing in internal audio tracks of video clips can be extracted in Silverstack and Silverstack Lab to be applied to the metadata of the video clip. This enables subsequent processes that leverage timecode, such as e.g. providing detailed clip metadata for editing, transcoding clips with embedded timecode metadata, creating detailed clip reports or automatic audio sync based on timecode.

How to Extract LTC and Apply it to Clips

To extract LTC in Silverstack first make sure to ingest all clips with LTC into the Silverstack library.

Choose the bin or folder containing the LTC clips and from the **“Media”** button menu in the toolbar choose **“Extract LTC”**:

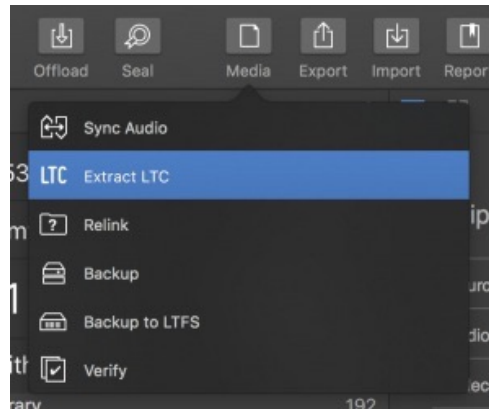


Fig. 1: Extract LTC in the “Media” menu

A wizard window opens that immediately extracts LTC for all selected clips:

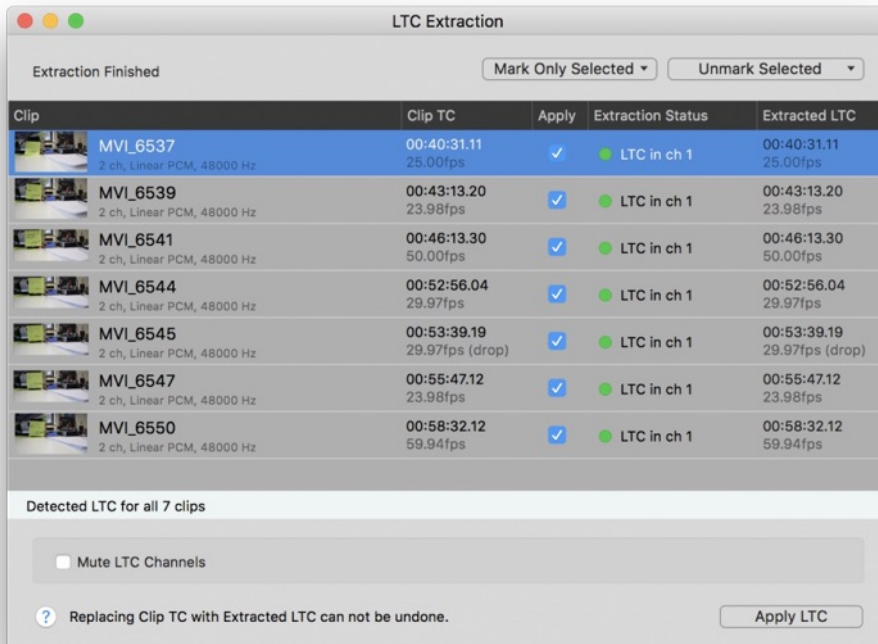


Fig.2: The LTC wizard finished the extraction of LTC for all selected clips

The following information is visible to the user in the wizard:

- Selected clip and audio information
- Original Clip TC
- Extraction status with channel information

- Extracted LTC and fps of LTC info

Silverstack attempts to read the LTC at the beginning of a clip. If no LTC is found the application iterates into the clip's timespan in several steps searching for an LTC in the whole clip. This also indicates that an LTC only has to exist for the beginning of a clip to be read out properly.

By checking the **“Mute LTC Channels”** checkbox you can make sure that after applying the LTC timecode to the clips the channels with LTC will become muted in Silverstack.

Click **“Apply TC”** to replace the Clip TC with the extracted LTC.

Please be aware that the process of applying the extracted LTC to the clip is not reversible and cannot be undone. Once you have taken over the extracted LTC to the clip you cannot go back to the original TC from the clip.

After taking over the extracted LTC to the clips each clips will have the regular **“TC Start”** and **“TC End”** in the General Info metadata on the right and in the table view:

MVI_6537	00:40:31.11	00:40:42.18	11 s	FPS of TC	25.00 (non-drop)
MVI_6539	00:43:13.20	00:43:27.01	13 s	TC Start	00:40:31.11
MVI_6544	00:52:56.04	00:53:12.04	16 s	TC End	00:40:42.18
MVI_6547	00:55:47.12	00:56:12.17	25 s	Reel / Tape	MVI_6537
				Ext. Audio TC Start	
				Ext. Audio TC End	
				Soundroll	

Fig. 3: The extracted LTC now is handled as the regular Clip TC in the Silverstack library

Now the timecode can be used for all subsequent task that involve the need of timecode for clips like e.g. transcoding or automatic audio sync based on timecode.

. Learn more about it in the article [How to Automatically Sync Audio based on Timecode in Silverstack Lab.](#)

Error Cases and Troubleshooting when Extracting LTC

When extracting LTC from video clips there are different possible error cases that are displayed in the LTC extraction wizard:

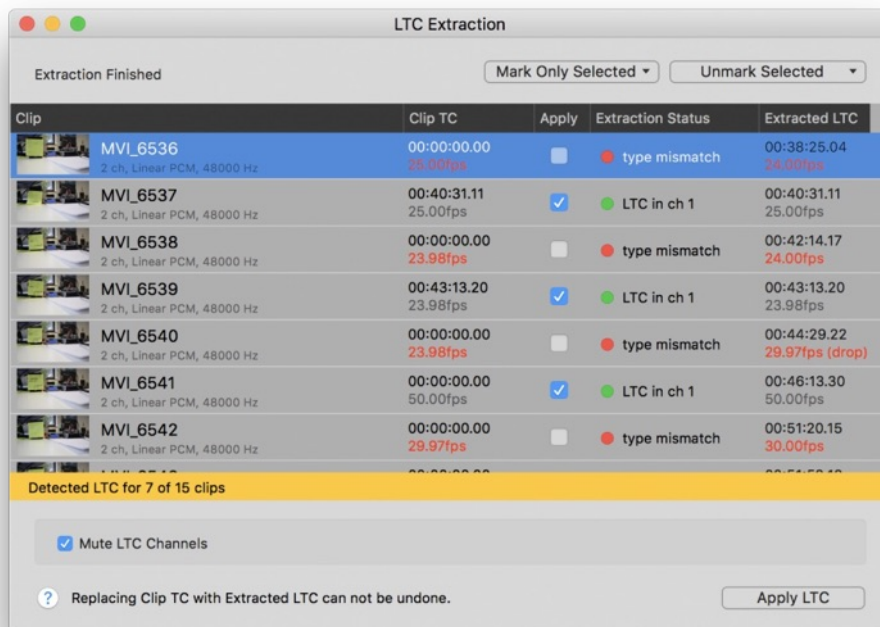


Fig. 4: The LTC extraction wizard with error messages

The **“Extraction Status”** column gives you insights about the following error cases:

- **“No LTC track found”**: No LTC track was found for the clip. Check the clips audio in the audio tab of the **“Audio&Color”** panel.



- **“Type mismatch”**: The fps of the LTC do not fit the LTC of the clip and the clip TC can therefore not be calculated correctly. This could especially become a problem with certain DSLR camera types that display 24fps as user selection in the menu but record in 23.976fps. Make sure clip TC and LTC match for a proper extraction.
- **“Clip offline”**: Clip is offline. Bring clips online to extract LTC.
- **“Extraction error”**: An unknown extraction error occurred.
- **“Clip has no audio”**: The clip has no audio. Check the clips audio in the audio tab of the **“Audio&Color”** panel.

Please be aware that LTC in the audio track does usually not survive compressed codecs such as e.g. MP3.

As the drop flag only affects the way of counting timecode and not its actual speed it is possible to apply drop-frame LTC on non-drop clips and vice versa.

As the bounds of an image frame are not necessarily the bounds of an LTC-audio frame, an error of up to a half frame can accumulate when synchronizing audio to LTC.

Dynamic Metadata

Silverstack XT and Silverstack Lab come with a **“Dynamic Metadata”** panel that allows to extract dynamic metadata for supported clip formats. Dynamic metadata refers to certain metadata information that changes over the time span of a clip (e.g. like TC which can also be considered dynamic). It is stored differently in diverse formats and therefore needs a special process to be accessed.

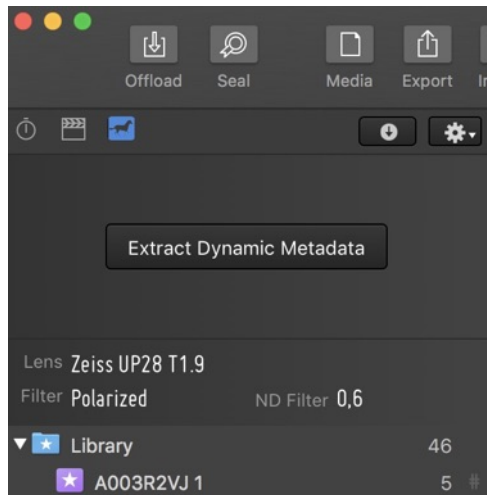


Fig. 1: The dynamic metadata panel in the upper left corner of the Silverstack UI

Supported Clip Formats

The following clip formats are currently supported for the extraction of dynamic metadata in Silverstack XT and Lab:

- ARRIRAW (.ari sequences and in .mxf container)
- ARRI Prores
- REDRAW
- SONY XAVC
- SONY X-OCN
- SONY RAW

Available Dynamic Metadata

The main part of dynamic metadata is dynamic lens metadata:

- Focal Length
- Aperture (T-Stop)
- Focus Distance

For ARRI ProRes and ARRIRAW clips Silverstack XT and Lab also support:

- Camera Tilt

- Camera Roll

How to Extract Dynamic Metadata

Select the third icon displaying a horse in the left sidebar above the library (see fig. 1)

To extract dynamic metadata for the selected clip press the “Extract Dynamic Metadata” button in the middle of the dynamic metadata panel.

You can start the extraction of dynamic metadata for multiple clips by selecting an entry from the gear menu in the toolbar:

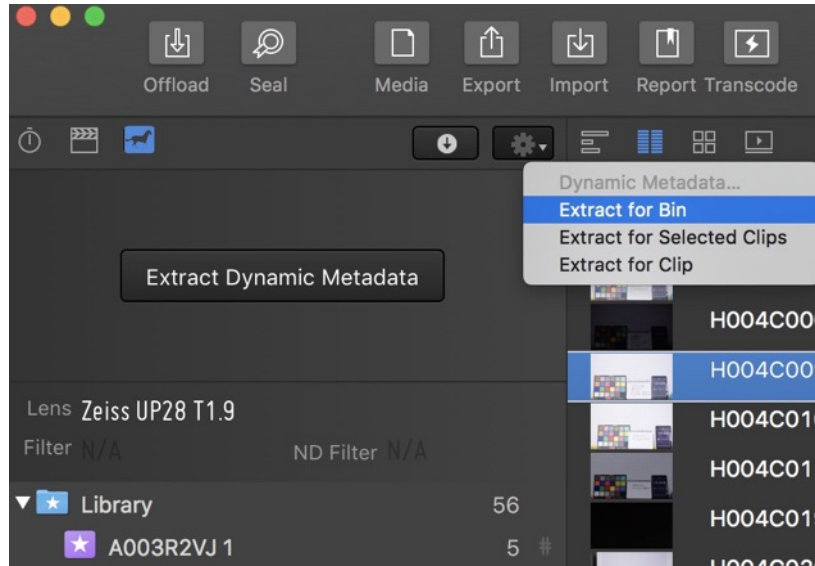


Fig. 2: Extract dynamic metadata for multiple clips

The extraction process for all clips can be monitored in the popover that reveals the current extraction state for every started clip:

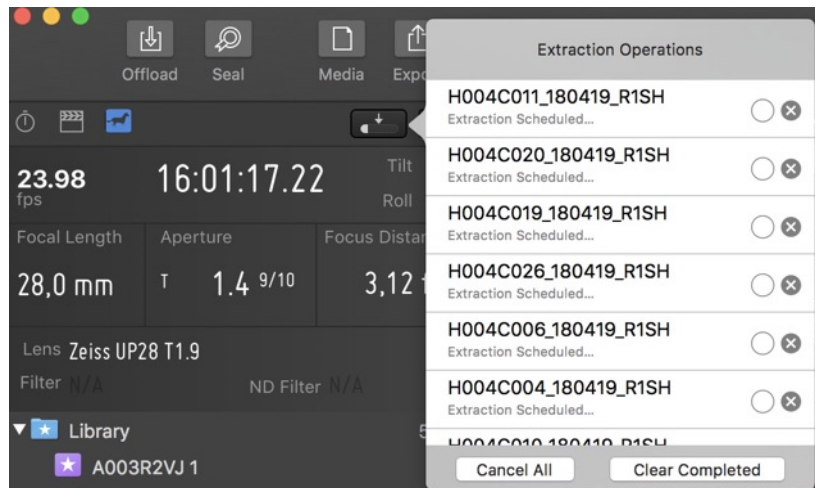


Fig.3: Extracting dynamic metadata from multiple clips

After a successful extraction the dynamic metadata panel reveals the extracted dynamic lens and camera metadata:



Fig. 4: The dynamic metadata panel with successfully extracted metadata

The metadata can now be inspected during playback or while scrubbing through a clip.

For completeness concerning lens metadata three additional static fields have been added to the lower section of the panel:

- Lens
- Filter
- ND Filter

They mirror data from the library and can also be edited in the General Info of the right sidebar.

Using Extracted Dynamic Metadata for Reports

For clips that support the extraction of dynamic metadata Silverstack extracts the dynamic metadata of the first frame already on ingest. That also allows Silverstack users to benefit from the dynamic metadata functionality and receive lens and other dynamic metadata for the first frame.

The additional lens fields can be exported to clips reports to enhance their information.

Silverstack XT and Silverstack Lab provide an extended functionality to leverage the dynamic metadata for generic clips reporting.

In the “Projects” preferences it is possible to make sure that the static representation of the extracted dynamic metadata, that is used for the General info and table view library, follows the thumbnail frame:

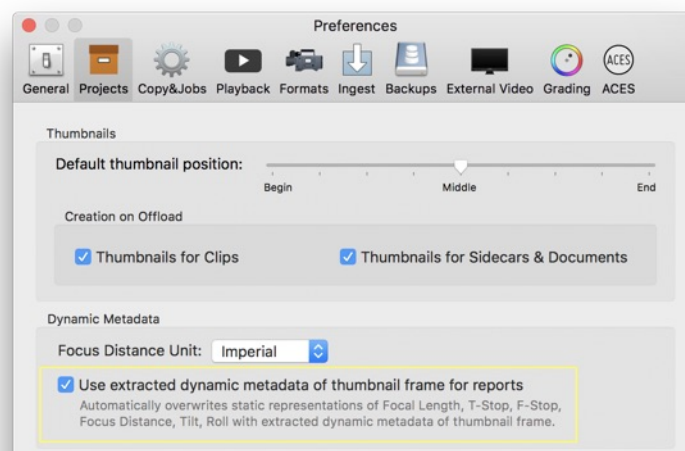


Fig. 5: Using the extracted dynamic metadata of the thumbnail frame for reports

Like this you can make sure that the metadata that is referenced in the reports goes along with the shown thumbnail.

The focus distance unit can also be changed at the same position and allows to choose the display of the focal length

in the dynamic metadata panel and the General Info to be imperial (inches/feet) or metric (millimeters/meters).

Dynamic Metadata Burn Ins

Silverstack Lab supports the functionality of adding burn ins of dynamic lens data when transcoding clips.

A “**Dynamic Lens Info**” string that contains focal length, aperture and focus distance can be selected from the burn in options to be transcoded to the clips.

Editing Keyboard Shortcuts in Silverstack

There are a variety of keyboard shortcuts available for commands in the main menu of **Silverstack**. Shortcuts can help greatly in boosting your productivity.

Many shortcuts are already predefined. You can also set shortcuts for selected commands that you perform quite often and that do not hold default shortcuts in order to memorize the interaction with Silverstack more easily.

To inspect the exact list of available keyboard shortcuts go to **Silverstack > Keyboard Shortcuts...** . This will open the Keyboard Shortcuts Editor (figure 1).

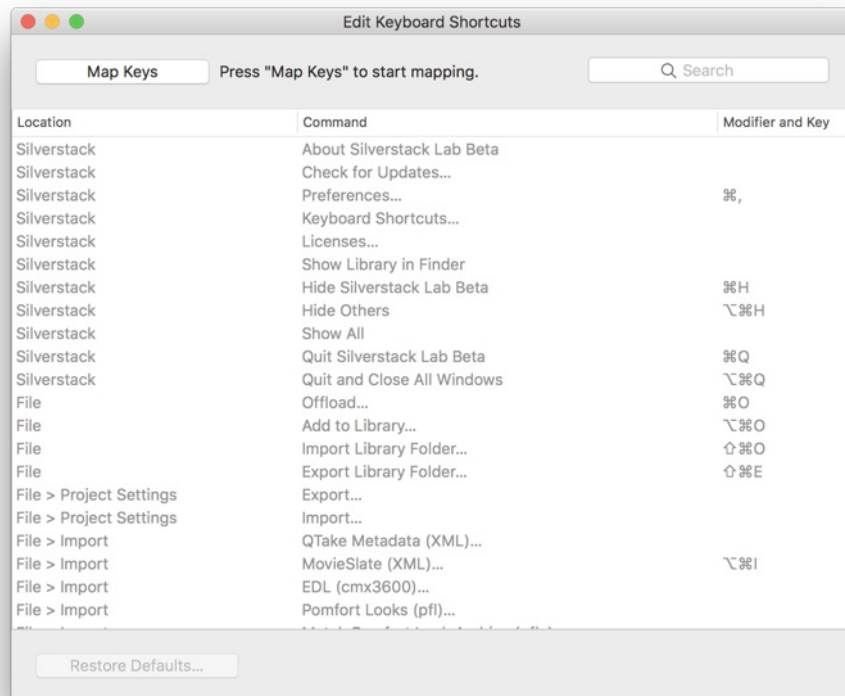


Figure 1: The Keyboard Shortcut Editor

Listing and Searching Keyboard Shortcuts

The keyboard shortcut editor shows a table with a list of all actions in the main menu and their currently set keyboard shortcut. You can search the list by typing into the search bar on top of the table.

Edit Keyboard Shortcuts

To edit a keyboard shortcut:

1. Select “**Map Keys**” to allow changes on the key mapping list.
2. Choose the row with the command.
3. To set or modify a shortcut press the key or keys to use as the new keyboard shortcut. You can use modifiers, numbers, letters and characters individually or in combination.



4. To remove the associated shortcut permanently press $\text{⌘} \text{⌫}$ (delete / backspace) button.

5. Close the **Edit Keyboard Shortcuts** window when you are done.

If you choose a shortcut already assigned to a command, a warning dialog box will be displayed that shows which command already used the chosen shortcut.

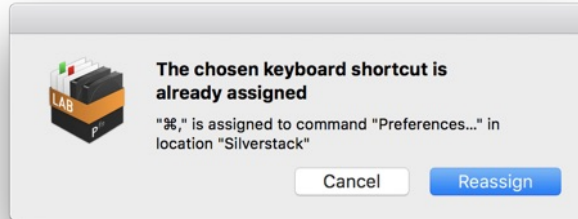


Figure 2: Alert showing used keyboard shortcut

Select “**Cancel**” and choose another key for your current command, or select “**Reassign**” which removes the shortcut from the old command and sets it for the selected command (figure 2).

Restoring Default Keyboard Shortcuts

You can reset all keyboard shortcuts to latest version default by clicking “**Restore Defaults...**”.

Note : Both of these steps executes an automatic restart.

Offload & Backup

Parallel Offloading

Offloading is the process of adding clips from a camera, field recorder or storage device to the Silverstack library and copy them onto one or several backup disks. In order to make it possible you can follow this directions:

Prepare for offloading

First of all you have to assign clips to a project. You can select a project or a folder from the library tree in the left panel before starting. This way you will be able to set your offload destination in Silverstack's library.

A new bin containing the offloaded clips will be created inside this project. It will have the same name as the source volume from which the clips have been offloaded. If the current selection in the library tree is a bin, a new bin will be created as a sibling of the selected one.

Starting to offload

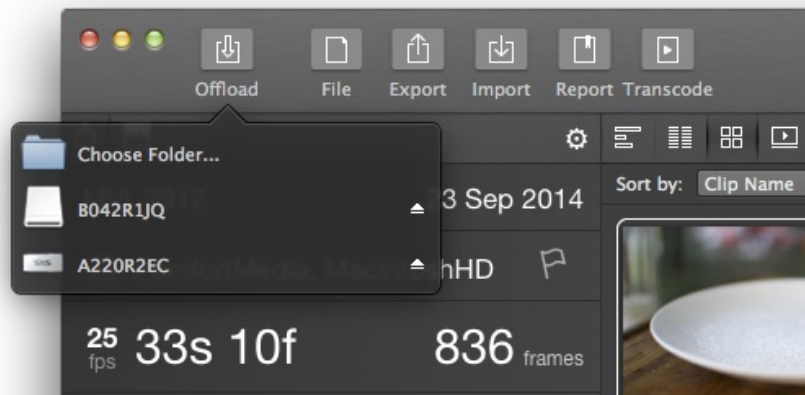


figure 1: offload source selection

After mounting the camera storage that you want to offload, you have several options to achieve that:

- Click on the “Offload” icon in Silverstack’s toolbar and select the volume you want to offload from.
- Choose Library > “Offload” from the Silverstack menu.
- Right click on a folder in the library tree (left panel) and choose “Offload” from the drop down menu.
- Drag the folder or card from the finder to Silverstack’s icon in the Dock window.

Using the options 2 and 3 a directory browser will open and you’ll need to select the volume or folder you want to offload from.

Offload Wizard

The “[Offload](#)” wizard (figure 2) will try to detect the used camera automatically. After scanning the chosen offload device, all found files will be shown in a table. If, in an exception, Silverstack should not choose the right camera format, you can simply change that by clicking on the camera selection button (figure 2 #1). The import options for the multiple camera types can be found and edited in the [application preferences](#).

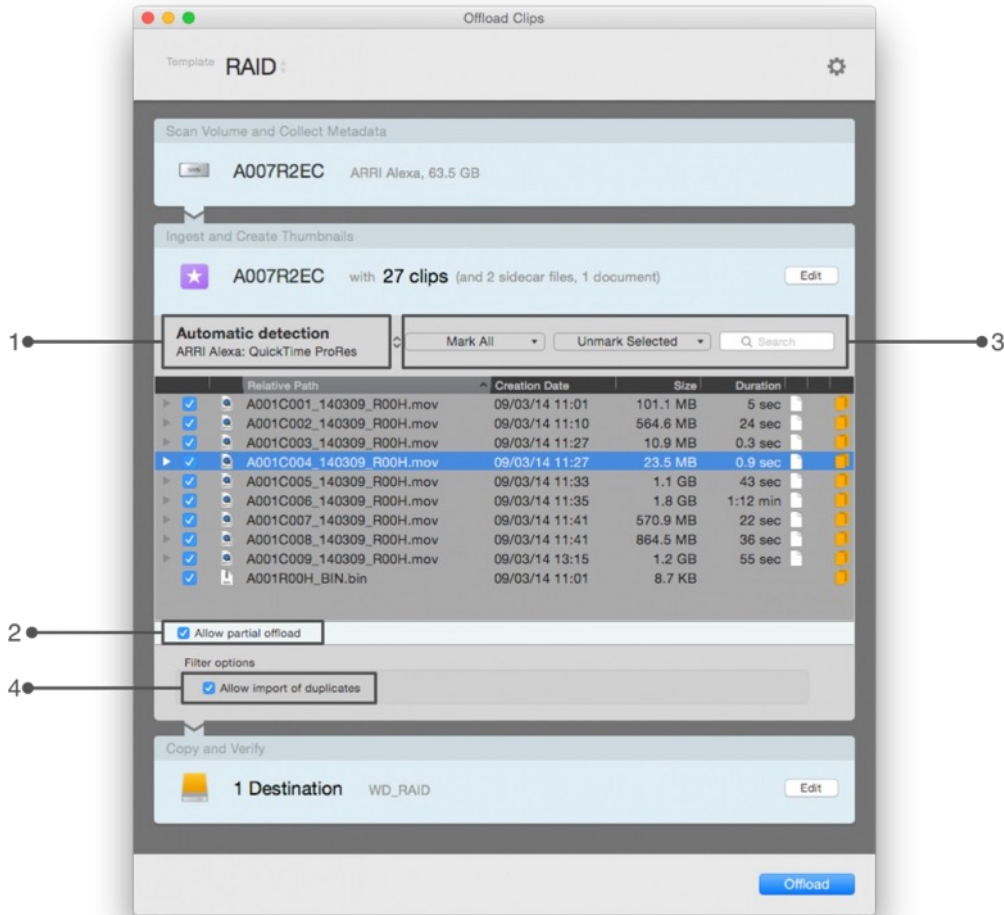


figure 2: selecting clips to offload

By default Silverstack will offload all the clips and sidcar documents contained in the device you have chosen. To edit the import options, click on the «Edit» button. If you want to offload only a subset of clips, you will have to check the “Allow partial offload” option (figure 2 #2). Clips can be marked and unmarked either by using the checkboxes or the mark and unmark buttons (figure 2 #3) above the search field. Therefore either select all clips you want to import and then click on “Mark Only Selected” or select those clips of all already marked that shall not be imported and click on “Unmark Selected”.

As you can see in figure 3 there is a bunch of keyboard shortcuts for marking (#1) and unmarking (#2) clips to facilitate this task.

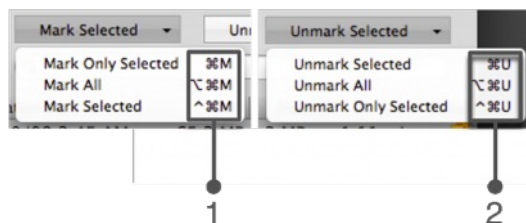


figure 3: marking clips to offload

Silverstack is prospecting for duplicates – clips already existing in the library – and prevents them by default from being offloaded. If you want to include those nonetheless, mark the checkbox “Allow import of duplicates” (figure 2 #4).

Sometimes Silverstack will skip some hidden files and empty folders as in figure 4. If you click “Learn More”, a window will pop up showing which files are ignored.

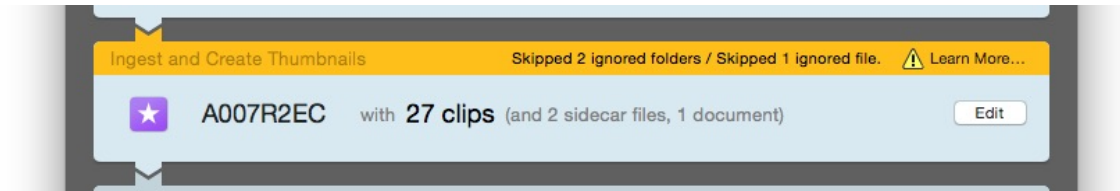


figure 4: skipped files warning

You are able to modify this behavior in Silverstack's Ingest preferences menu. In addition to the preferences the following files are always ignored:

- Mac OS X resource fork files (starting with ._)
- MD 5 and SHA 1 files that have been created by Silverstack

When you are done with your offload source choice, you can proceed to select the copy destinations.

Choosing your copy destination

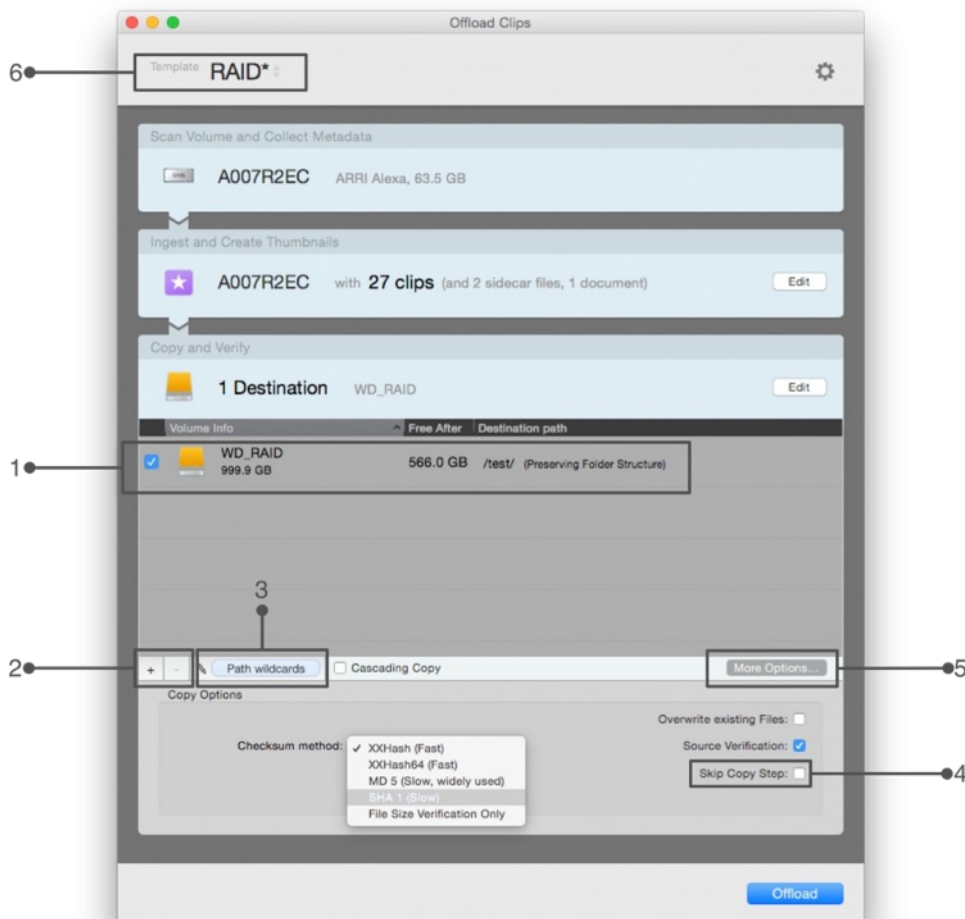


figure 5: choosing your destination and copy options

In this section you are able to choose the HDDs where Silverstack will backup the clips from your library. To edit the import options, click on the «Edit» button. The number of disks that can be copied simultaneously is only limited by your hardware. The destination is defined by the drive itself (figure 5 #1) as well as a folder on that drive. Click the small “+” button in the lower left of the table (#2) to add new drives or folders. Click the “-” button next to it to remove the selected folder or drive.

To optimize the way your files are stored and saved on the destination device, there is the possibility of using [path wildcards](#) (#3). With path wildcards Silverstack allows you to automatically create a custom folder structure for your

backups based on the offloaded clips' metadata.

If you just want to create references to video clips in Silverstack's library without copying those clips to another storage device, you should mark the "Skip" checkbox (#4).

More copy options are available under the "More options" button (#5):

- Checksum method: select the method used for verification after files have been copied. You can choose between multiple checksum methods like XXHash, MD5, SHA1 or choose to do only file size verification (faster but not recommended). You can learn more about the checksum methods in [Checksum verification methods](#).
- Document wildcard handling: modifies Silverstack's behavior with non-clip files while using wildcards. More info in the [Use of Wildcards article](#).
- Overwrite existing files: you can tell Silverstack to overwrite clips if they already exist in the chosen folder.
- Source Verification on/off: the option is on by default, meaning that during the verification process source and destination are read. When off, only the destination is read, giving less security but speeding up the overall copy process.

After determining your copy destinations click on "Backup clips" to register the clips in the library and start the copy job. All the information about the offload process can be supervised in the Jobs panel and -with less detailed information- in Silverstack's lower bar.

Additionally, Silverstack offers the possibility of saving offload wizard templates. These templates can be chosen through the drop down menu shown in figure 5 #6. For more information about the offloading templates, please check the article [Offload wizard templates](#).

Revert to the legacy Offload Wizard

It's possible to use the classic multi-step offload wizard from previous Silverstack version by modifying the settings on the Preferences menu. On the «General» tab you can select the check box «Use old multi-step Offload Wizard»:

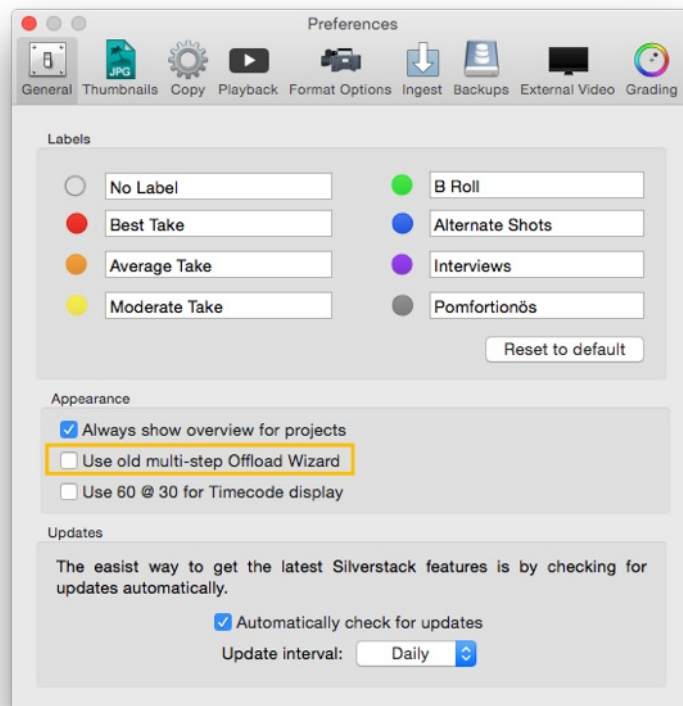


figure 6: General Preferences menu

Cascading Copy



figure 1: cascading copy setup

The Cascading Copy offloading mode is designed to free up camera media storage as fast as possible. This can become convenient in working environments with small amounts of camera storage devices or in situations with only one docking station and multiple camera storage devices have to be offloaded.

Silverstack makes it possible by offloading the camera media first to a very fast destination and then to the slower backup disks from the first fast destination with a single job. Once the first step of the process is finished, the camera media can be unmounted and is ready to be used again while the second copy step is being performed.

Offload Wizard

The Offload wizard (figure 2) will try to detect the used camera automatically. To edit the import options, click on the «Edit» button. After scanning the chosen offload device, all found files will be shown in a table. If, in an exception, Silverstack should not choose the right camera format, you can simply change that by clicking on the camera selection button (figure 2 #1). The import options for the multiple camera types can be found and edited in the [application preferences](#).

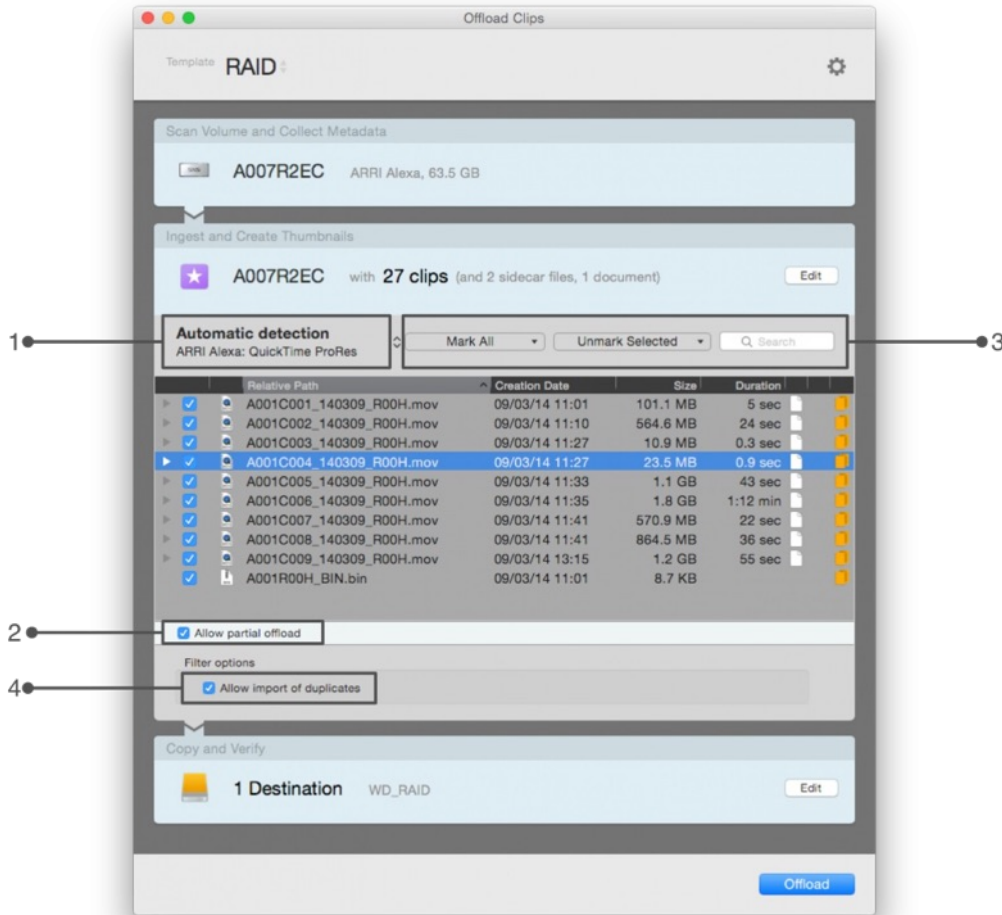


figure 2: selecting clips to offload

By default Silverstack will offload all the clips and sidecar documents contained in the device you have chosen. If you want to offload only a subset of clips, you will have to check the “Allow partial offload” option (figure 2 #2). Clips can be marked and unmarked either by using the check-boxes or the mark and unmark buttons (figure 2 #3) above the search field. Therefore either select all clips you want to import and then click on “Mark Only Selected” or select those clips of all already marked that shall not be imported and click on “Unmark Selected”.

Silverstack is prospecting for duplicates – clips already existing in the library – and prevents them by default from being offloaded. If you want to include those nonetheless, mark the checkbox “Allow import of duplicates” (figure 2 #4).

Sometimes Silverstack will skip some hidden files and empty folders as in figure 3. If you click “Learn More”, a window will pop up showing which files are ignored.

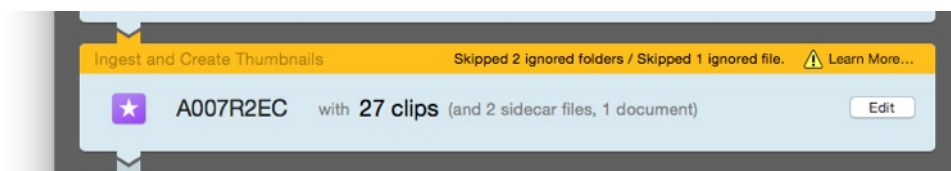


figure 3: skipped files warning

You are able modify this behavior in Silverstack’s Ingest preferences menu. In addition to the preferences the following files are always ignored:

- Mac OS X resource fork files (starting with ._)
- MD 5 and SHA 1 files that have been created by Silverstack

When you are done with your offload source choice, you can proceed to select.

Choosing your copy destinations

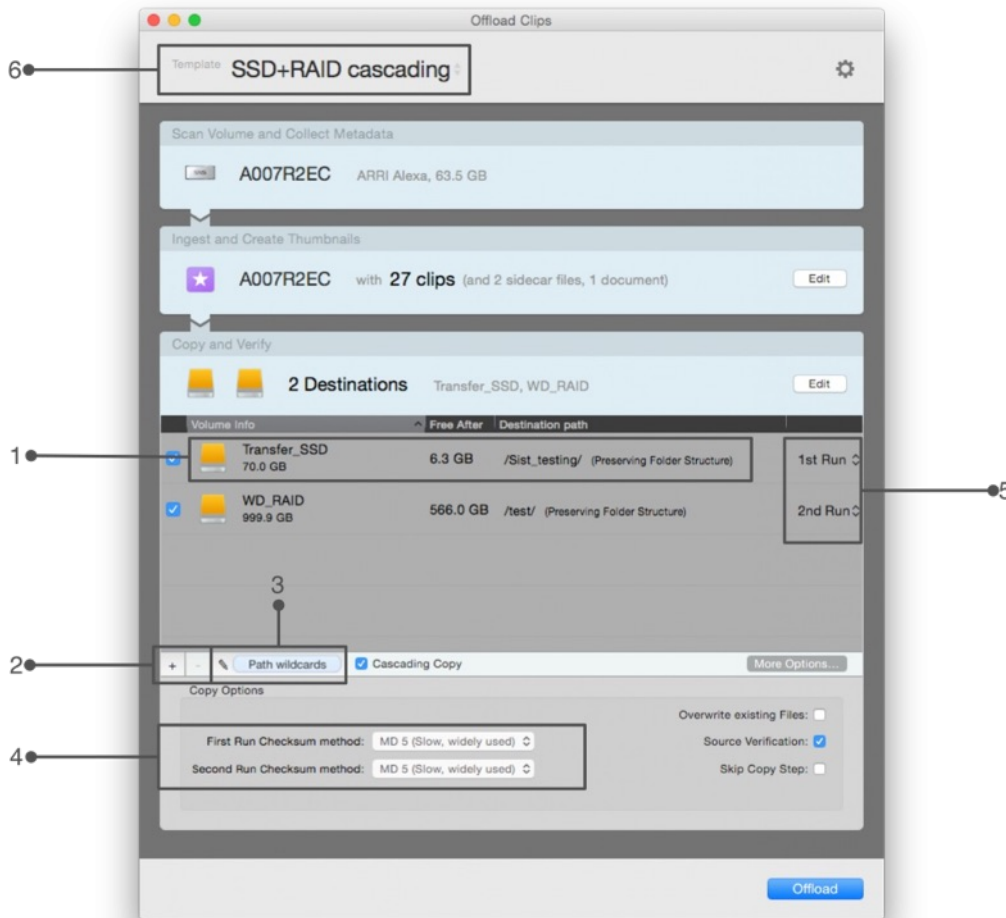


figure 3: cascading copy options

In this section you are able to choose the destinations where Silverstack will backup the clips from your library. The number of disks that can be copied simultaneously is only limited by your hardware. The destination is defined by the drive itself (figure 4 #1) as well as a folder on that drive. Click the small “+” button in the lower left of the table (#2) to add new drives or folders. Click the “-” button next to it to remove the selected folder or drive. Once all the drives have been added, you can select the order in which Silverstack will copy the clips (#5). If «1st Run» is selected, the files will be copied to that first drive. If «2nd Run» is selected, the files will be copied from the 1st Run disc to the 2nd Run discs while the original camera media can be unmounted and reused.

To optimize the way your files are stored and saved on the destination device, there is the possibility of using [wildcards](#) (#3). With path wildcards Silverstack allows you to automatically create a custom folder structure for your backups based on the offloaded clips’ metadata.

More copy options are available under the “More options” button:

- Checksum generation method: the default checksum generation method is the recently developed MHL protocol (more info in [MHL checksum verification article](#)). A verification method is available for each Cascading Run (figure 3 #4). For 1st Run destinations we recommend using xxHash (fast for high performance hardware) and MD5 for 2nd Run slower transfer drives for post production compatibility.
- Document wildcard handling: modifies Silverstack’s behavior with non-clip files while using wildcards. More info in the [Use of Wildcards article](#).
- Overwrite existing files: you can tell Silverstack to overwrite clips if they already exist in the chosen folder.
- Source Verification on/off: the option is on by default, meaning that during the verification process source and destination are read. When off, only the destination is read, giving less security but speeding up the overall copy process.

After determining your copy destinations click on “Backup Files” to register the clips in the library and start the copy

job. All the information about the offload process can be supervised in the Jobs panel and -with less detailed information- in Silverstack's lower bar.

Offload wizard templates

The offload wizard templates are designed to speed up the [offloading process](#) by simplifying the steps needed to select different copy destinations and settings. With the offload templates you can save a series of presets that can be recalled for every offload. The templates can contain multiple copy destinations along with different settings for each destination, like the hashing method or path wildcards.

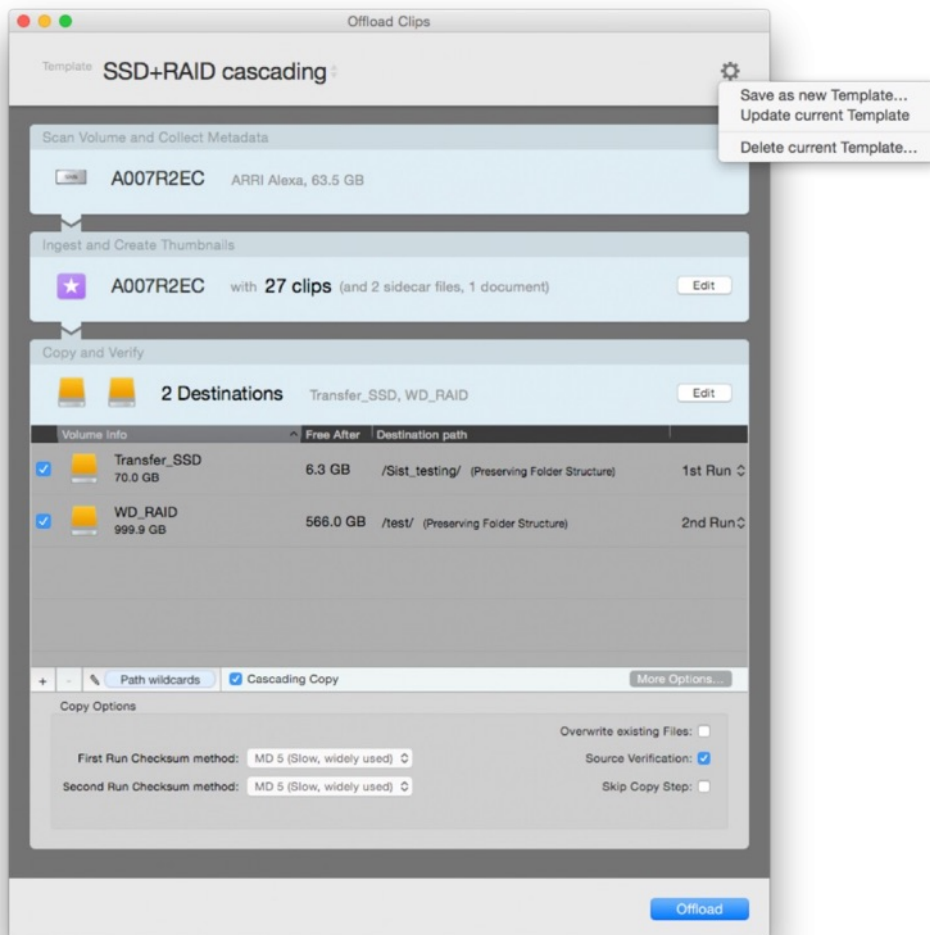


figure 1: offloading wizard templates

Creating a template

In order to start the creation of a template, just start an offloading job as usual. Once the offload wizard appears, you can select the copy destination and adjust the settings for the checksum method and path wildcards (when needed). After you have finished setting up the offload, you can click on the «gear» button on the top right corner and select «Save as new Template...». At this point a dialogue opens to name the template:

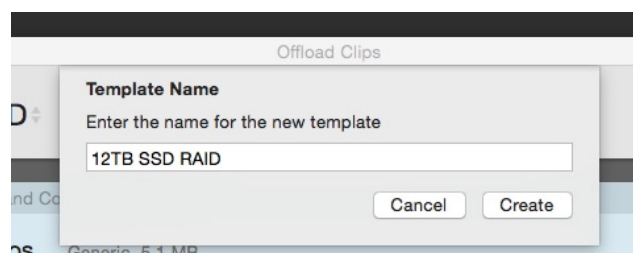


figure 2: template naming

Finally, click on «create» and the template will be saved.

Updating a template

If there's the need to modify an existing template, you can do so by selecting the new settings, and then you can click on the «gear» button on the top right corner and select «Update current Template». The modifications will be saved to the template at this point. Once a template has been edited, it is marked with an asterisk like «Template*».

Selecting templates

Once you have a set of offloading templates created, you can switch between them by clicking on the template name:

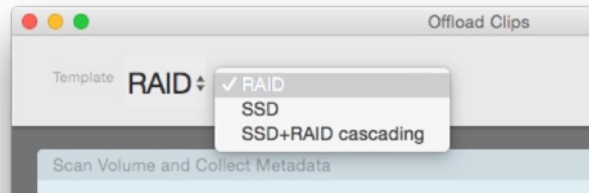


figure 3: template selection

Backup Clips

If you want to backup [assets](#) that already exist in your Silverstack library to another location lets say on an additional 3rd or 4th backup drive, you can do that by using the “Backup” wizard. Therefore mark all the clips you would like to backup.

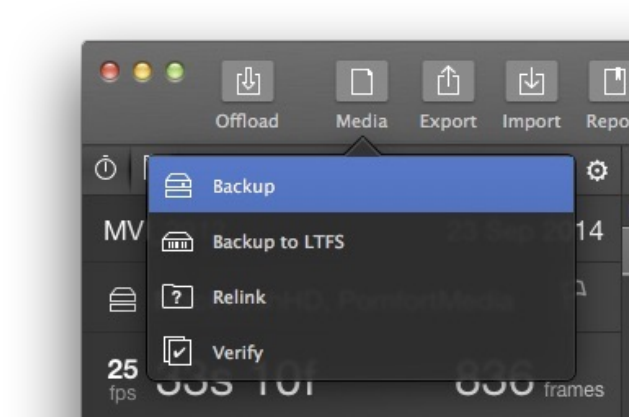


figure 1: Backup function selection

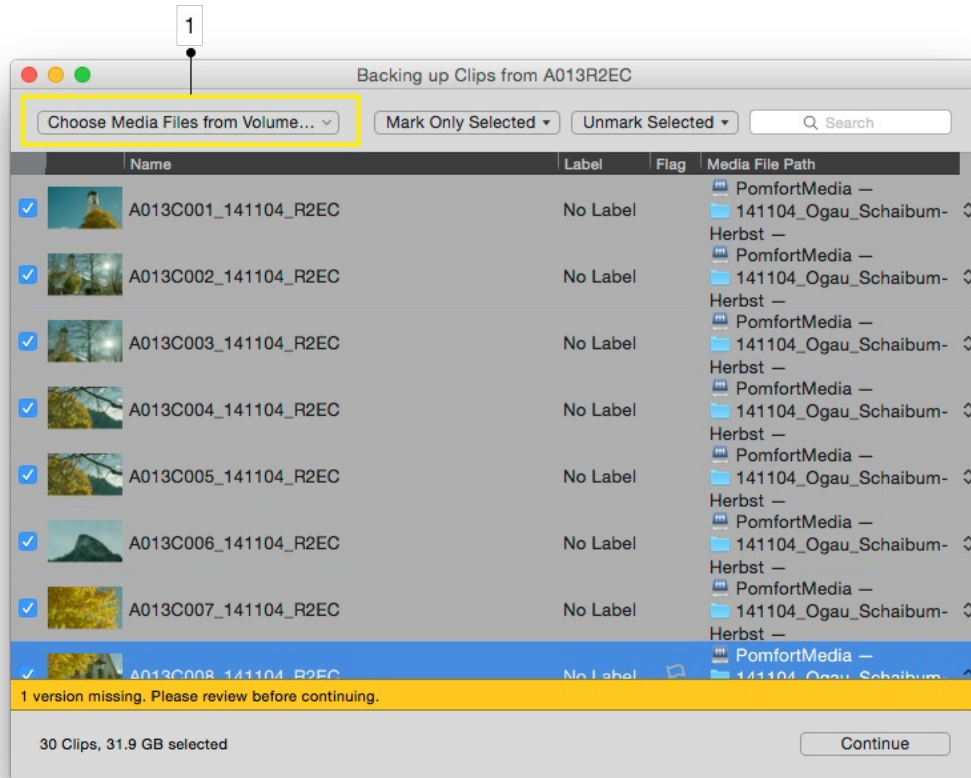


Figure 2: Silverstack “Copy”-wizard: Choosing the clips

In the “*Backup*” wizard window (figure 2) all clips are listed by the currently selected level of your project tree. You can choose from the list all desired assets that shall be copied to your new destination. The whole folder structure of those clips will be copied and newly built in the destination folder.

You can choose from which volume the files should be copied (figure 2 #1), as sometimes it may increase the copy speed depending on your hardware.

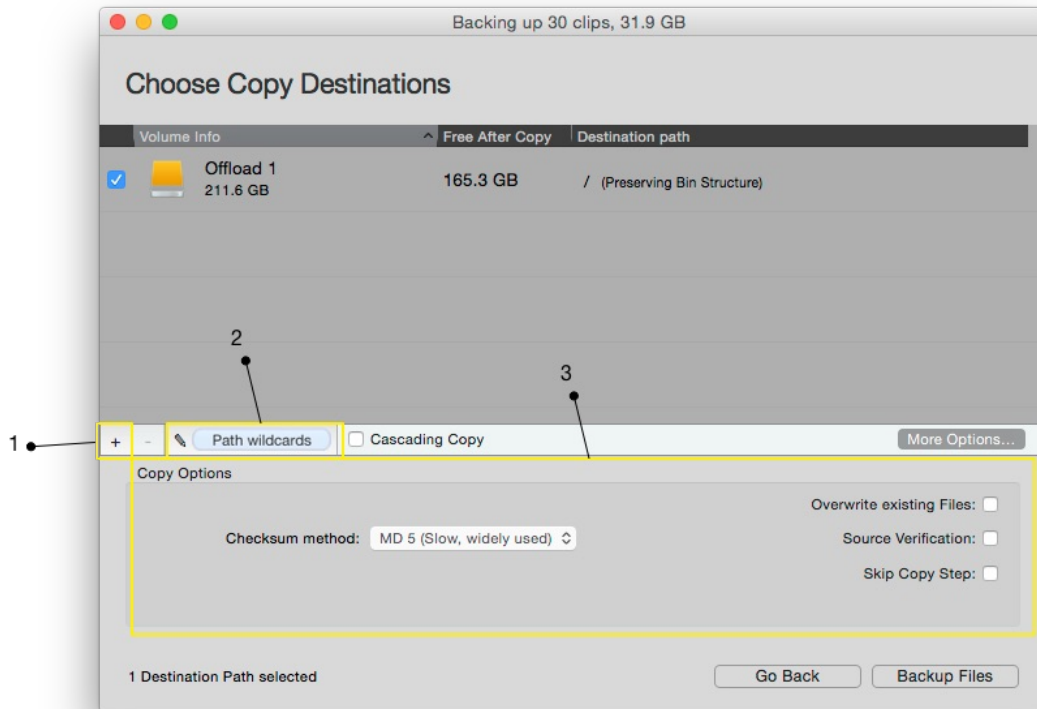


Figure 3: Silverstack “Copy”-wizard: Choosing the destination

Afterwards you have to determine the copy destination (figure 3) by choosing the drive and folder (figure 3 #1).

To optimize the way your files are stored and saved on the destination device, there is the possibility of using [path wildcards](#) (figure 3 #2). Wildcards allow you to let Silverstack create a custom folder structure based on clip or user metadata.

Silverstack also offers you a great functionality called “*Checksum generation method*” that can be found at the bottom of the wizard window, which verifies the copies you are about to make. That guarantees a consistent quality of your clips. This function as well as the other copy options (figure 3 #3) are explained in the article “[Offload process](#)”.

Reordering and Suspension of Jobs

Scheduled copy and transcoding jobs can be reordered and suspended since Silverstack version 6.2.

Overview

In detail this means:

- Copy and transcoding jobs are visualized in separately colored queues
- Waiting jobs can be reordered with a drag and drop operation
- Running jobs can be suspended to stop them after the next subtask is completed
- Waiting jobs can be suspended to take them out of the queue order of operation

This functionality gives you full flexibility to maintain an optimized task order at any point.

Job Queues

There are three job queues that are visualized in the “**Queue**” column with different colors:

- **Primary copy queue** (magenta)
- **Secondary copy queue** (green)
- **Transcoding queue** (blue)

The “**Queue**” column indicates the order of the completion of jobs. Jobs in a queue will be completed from top to bottom. Running jobs are always on top.

Queue	Source	Job	Configuration	Progress	State
▶	ARRIRAW_23976fps	Offload	Editorial2	5.51 MB/s	Running
▶	6_Alexa_Mini_RAW_MXF	Offload	Editorial2	Waiting	Waiting
▶	7_Alexa_Open_Gate	Offload	Editorial2	Waiting	Waiting
▶	Flex 4k	Copy	Offload2	5.28 MB/s	Running
▶	ARRIRAW_23976fps	Copy	Offload2	Waiting	Waiting
▶	6_Alexa_Mini_RAW_MXF	Copy	Offload2	Waiting	Waiting
▶	7_Alexa_Open_Gate	Copy	Offload2	Waiting	Waiting

Fig. 1: Running and waiting copy jobs in primary (magenta) and secondary (green) copy queue, with the queue column indicating the order of completion

Active jobs have different statuses that are also indicated by according icons in the “**Queue**” column:

- **Active jobs (upper table view):**
 - Running
 - Waiting
 - Will Suspend
 - Suspended

Primary Copy Queue

Copy jobs are generally scheduled into the main primary copy queue where they will be executed from top to bottom. You can set the number of parallel jobs for the primary copy queue in the preferences. Please see the article [Multiple Simultaneous Copy Jobs in Silverstack](#) for more information about the general copy preferences.

Secondary Copy Queue

The secondary copy queue holds “**Second Run**” jobs from Cascading copy jobs. Learn more about Cascading copy jobs in the article [Cascading Copy](#). Enabling a separate queue for “Second Run” copy jobs will automatically schedule them into the secondary copy queue. Learn more about the independent execution of “Second Run” copy jobs in the article [Cascading Copy Preferences](#).

Transcoding Queue

The transcoding queue holds all transcoding jobs and will also be executed from top to bottom. Please see the articles [Transcoding in Silverstack and Silverstack XT](#) or [Transcoding in Silverstack Lab](#) for more information about transcoding.

▶	7_Alexa_Open_Gate	Offload	Editorial2	Suspended	Suspended
▶	6_Alexa_Mini_RAW_MXF	Copy	Offload2	Suspended	Suspended
▶	7_Alexa_Open_Gate	Copy	Offload2	Suspended	Suspended
▶	ARRIRAW_23976fps	Copy	Offload2	Suspended	Suspended
▶	7_Alexa_Open_Gate	Transcode	Editorial	41.0 FPS	Running
▶	6_Alexa_Mini_RAW_MXF	Transcode	Editorial	Waiting	Waiting

Fig. 2: The blue transcoding queue

Terminated Jobs

The active jobs are shown in the table in the upper half of the jobs view while the lower half shows the terminated jobs:

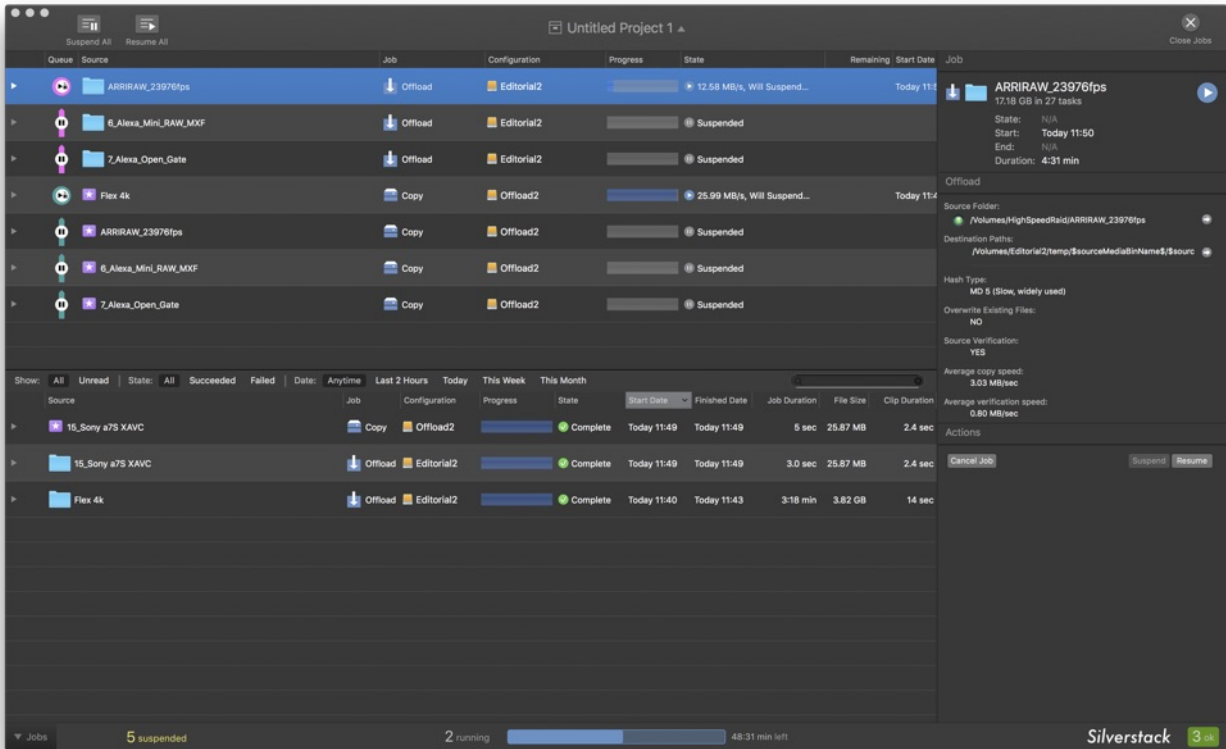


Fig. 3: The upper table view with active jobs and the lower table view showing terminated jobs

Terminated jobs are not anymore a part of a copy queue. They will be automatically moved to the second table view in the lower half of the jobs window.

Terminated jobs have different statuses in the “**State**” column:

- **Terminated jobs (lower table view):**
 - Finished Successful
 - Finished with Error
 - Aborted (by system)
 - Cancelled (by user)

Reordering of Jobs

Waiting jobs in a job queue can be reordered with drag and drop. Select a waiting job and pull it over or under any other waiting jobs in the same queue:

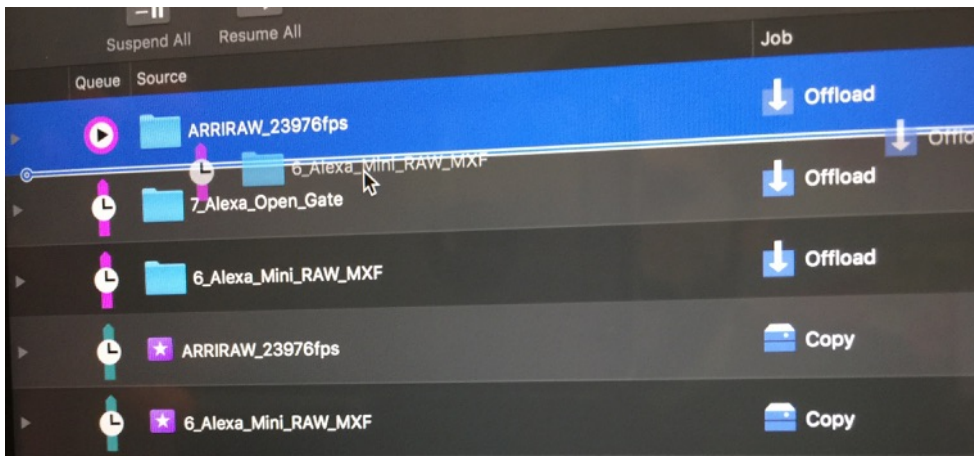


Fig. 4: Reordering a copy job inside the queue by dragging it to the intended queue position

Please be aware that:

- Jobs cannot be moved between queues
- Suspended jobs cannot be reordered above waiting jobs. They stay at the bottom of the queue and will not be executed until they are resumed.
- Waiting jobs cannot be reordered above running jobs. Suspend running jobs for the next job in the queue to start.

Suspension of Jobs

Suspending a job will stop the job after the next task (often being the next file) is finished. This enables the prioritization of an incoming job and avoids loss of copy or transcoding progress.

To suspend a running job select it and click the “**Suspend**” button in the right tab:

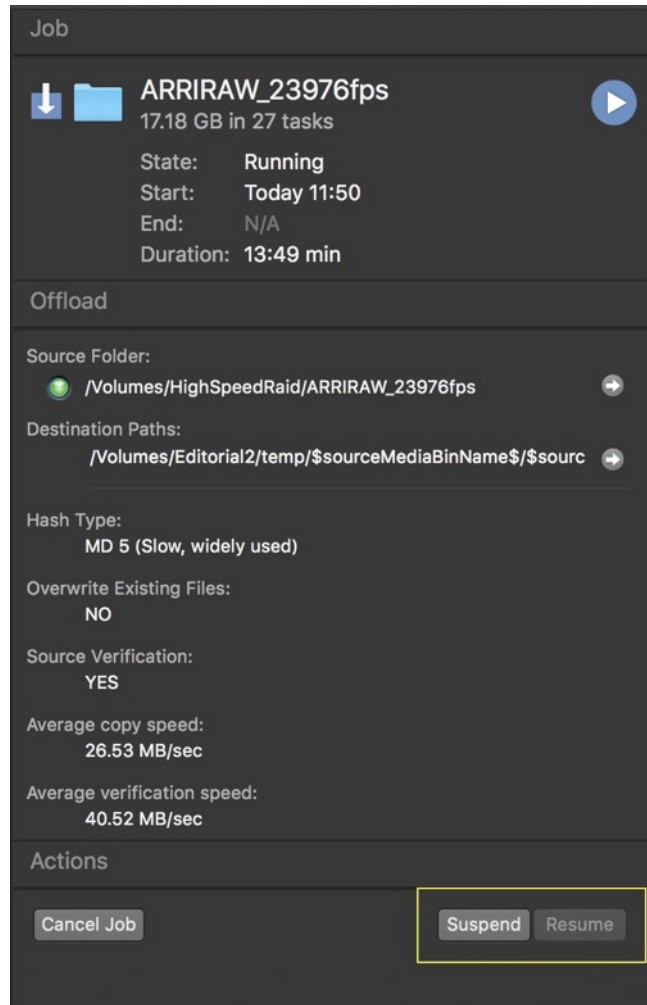


Fig. 5: The suspend and resume buttons in the right bar of the jobs window

To resume the job again click the “**Resume**” button.

When **suspending a job** the following state transfers will be made:

- Running -> Will Suspend -> Suspended
- Waiting -> Suspended

When **resuming a job** it will again be queued with its former priority.

Suspended jobs are still visualized at the bottom of the queue but **will not be executed**.

Cancelling Jobs

Cancelling a job will immediately stop the job and move it to the terminated jobs at the lower half of the jobs window. The copy progress of the current task/file will be lost, the copy progress of completed tasks/files is

preserved. Cancelled jobs can be re-queued and will continue the copy process after the last successful task/file.

Use of path wildcards

Silverstack offers you a very flexible folder renaming feature, which allows you to create a custom folder structure on your offload and backup destinations.

For every copy destination you can define individual folder structure options. If you start a copy process to different destinations, you can have different folder structures on every destination. Or you just can create a clone of your source material.

There are a variety of software tools in the postproduction process which require a specific folder structure. To simplify the organization of the clips related to the different folder structure requirements, Silverstack offers this useful feature that automatically helps you to structure the files.

To determine the names of folders you can add a various set of metadata placeholders – called wildcards – that will be replaced by the actual values of each clip during copy.

This means that Silverstack is able to automatically save your clips in a specific, individually determined folder structure. So for example your files can be stored in folders according to their submission date and carry the project name and submission time in their file names.

Wildcards can be added in the destination selection step (figure 1) of the “[Offload](#)” and “[Backup](#)” wizard. Therefore you first need to choose a drive and a folder (figure 1 #1).

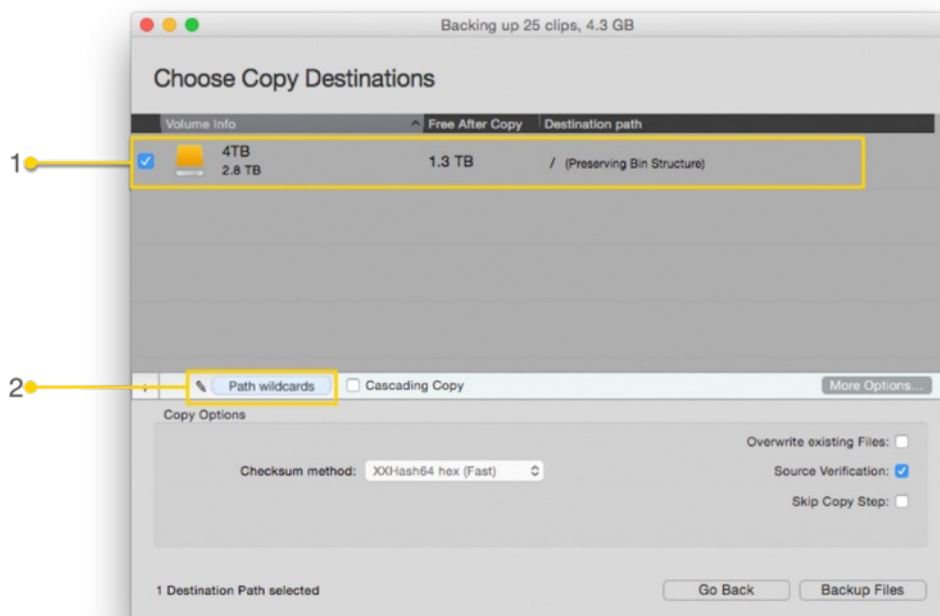
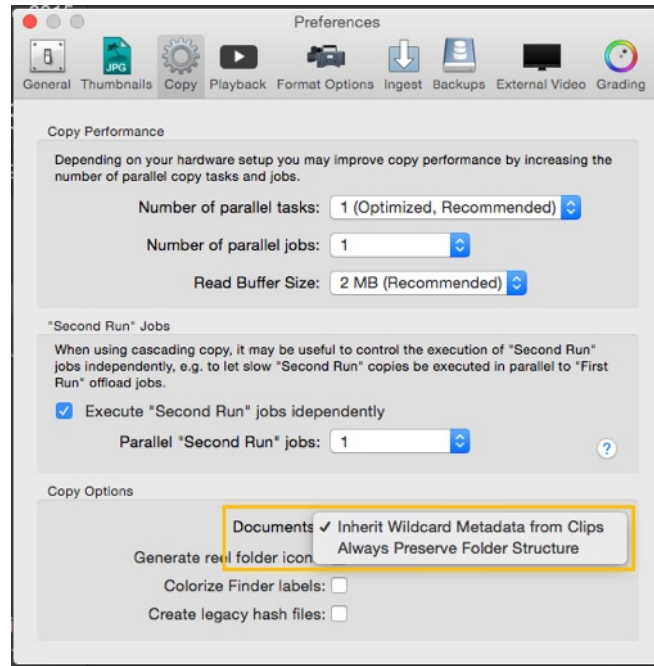


figure 1: the Backup wizard. Choosing the destination path.

Document Wildcard Handling

You are able to decide if you want to preserve the original folder structure for the non-clip files or create your custom structure inheriting the metadata from the clips, having this way all the sidcar documents with their parent clips. By default, Silverstack will inherit metadata from clips. To choose between this two options, go to Preferences > Copy and choose your Document Wildcard Handling as “*Inherit metadata from clips*” or “*Always preserve folder structure*”:



Document wildcard handling

It is important to have in mind that when selecting the *“Always preserve folder structure”* option, all files not considered as clips by Silverstack (such as: non fully supported camera formats, image file sequences, sidecar documents, PDFs...) will be copied in the same path of the clips. All documents will preserve the same folder structure of the original medium – that means all clips are in the folders you have created.

Now, to make use of the helpful feature of wildcards, click on *“Path wildcards”* (figure 1 #2) and the wildcards wizard opens...

Important – Need to know

- Make sure that the path you have determined by choosing a drive and folder (figure 1 #1-3) is not changed or deleted unintentionally in the editable path field of the wildcard wizard (figure 2 #1). Just add wildcards to the already existing path components.
- In the path field you have to separate the single wildcard tokens by a slash (“/”) if they are supposed to mark a folder structure. Separate them with a dash (“-”) to combine different wildcards for one folder level.
- Filenames should contain some wildcards in order to make them unique. Silverstack checks the uniqueness of all created file paths and warns you if necessary.

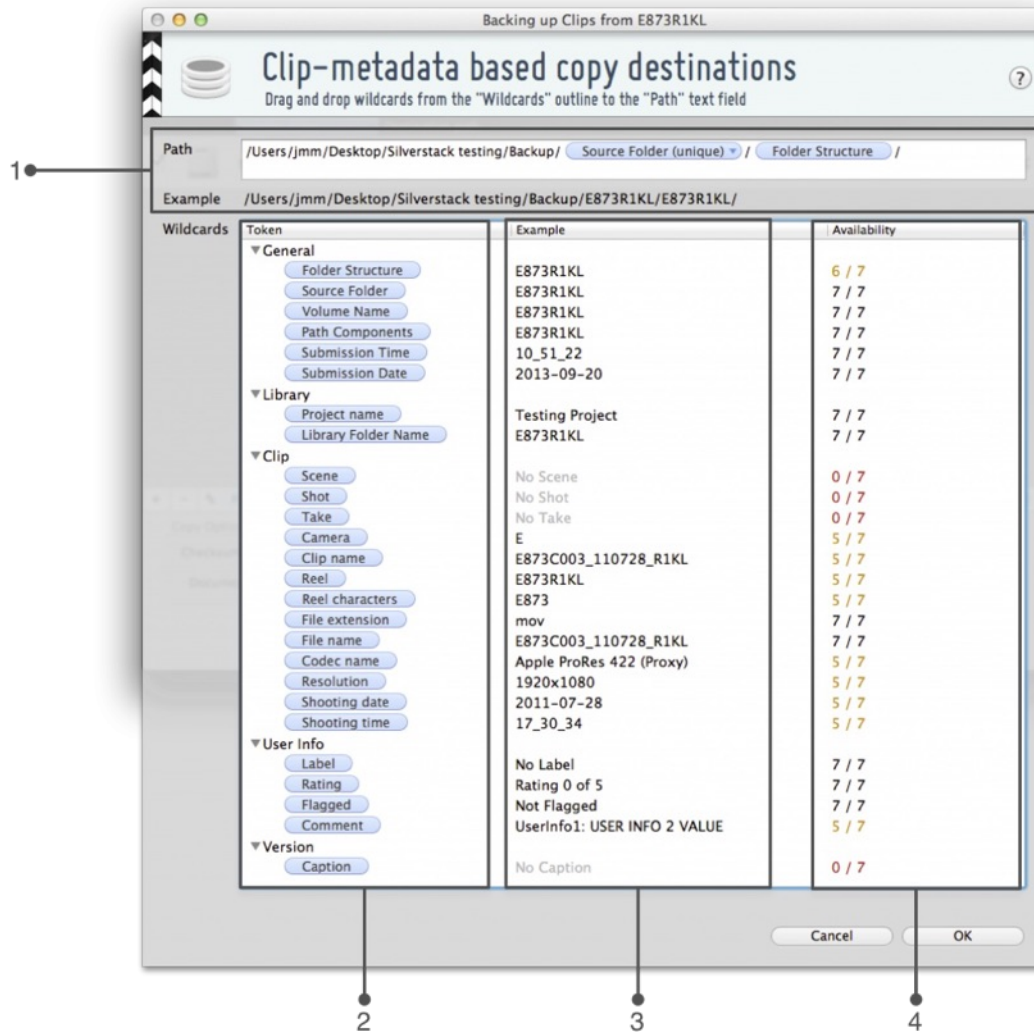


figure 2: wildcard wizard

Path textfield and example label

The wildcard wizard (figure 2) at the top shows the full destination path (figure 2 #1) which is editable. You can either type path components in the text field directly or drag and drop wildcards there from the list below. Beneath the text field you can see an example of the pathname including wildcards using one of the clips you are going to copy.

Wildcard table

All available metadata fields are shown in the wildcard list. So you can name your files and folders according to information as submission date and time, project name, various clip information and others.

The tokens (figure 2 #2) can be drag&dropped into the path field (figure 2 #1). The next column (figure 2 #3) contains an example of every token as it will be seen in the final path- or filename. The third column (figure 2 #4) tells you how many of the previously selected files contain this metadata information.

Multi-optional wildcards

Some wildcards like the submission time (figure 3) offer several options. You can choose between those by clicking on the small triangle.

- For submission and shooting time you can choose between the formats: HH_MM_SS and HH_MM
- For submission and shooting date you can choose between the formats: yyyy-mm-dd, yy-mm-dd, yymmdd, yyymmdd
- For the *path components* wildcard you can choose the amount of path components of the source folder structure of the clip – this information will be include in the path of the newly generated folder structure. So if you choose “3”, the last three levels of the folder structure of the original clip are included in the new clip’s

path.

- For reel characters it is possible to choose parts of the reel name as wildcards. You either can select the first or if applicable the last characters of the reel name.



figure 3: Wildcard wizard: wildcard with several options

LTFS backup



figure 1: backup to an LTO tape

Silverstack offers a feature to specifically backup to LTO tapes. Due to the nature of their hardware, LTO tapes need a different copy process than the widely used HDDs or SSDs. The process used by Silverstack is to copy all the selected clips, rewind the tape and then perform the verification. This way only one rewinding step is needed for each backup job.

Additionally, Silverstack supports any kind of LTO drive that creates an LTFS file system on MAC OS X. If it can be accessed in Finder, it can be used by Silverstack. However, no data capacity information is offered for LTO tapes. For this reason, it is recommended to manually check that the backup size does not exceed the tape capacity to prevent failed backup jobs.

To start a backup job to an LTO tape, select the «File» menu and choose «Backup To LTFS»:

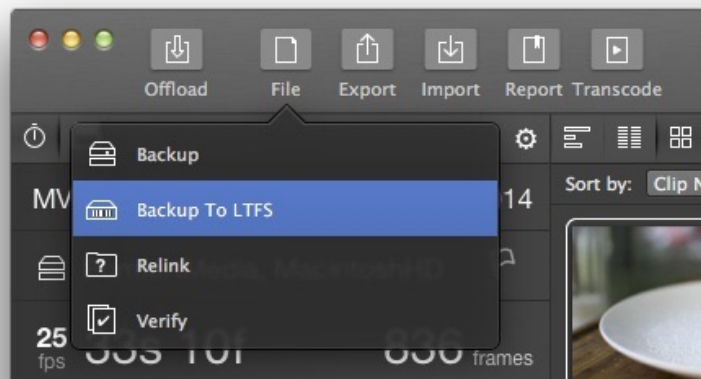


figure 2: File menu

Then select the clips to backup:

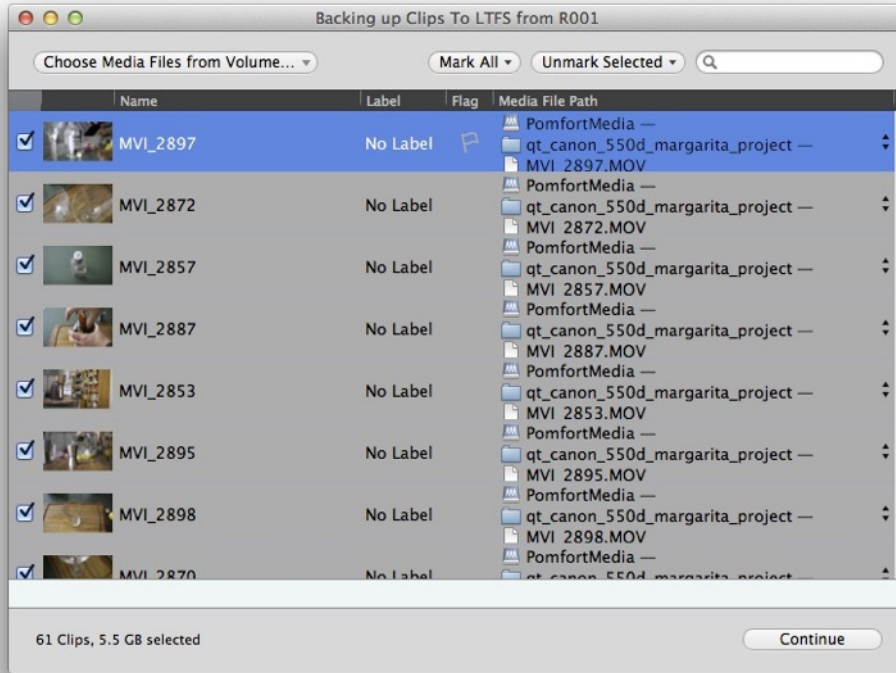


figure 3: clips selection

Afterwards, add the LTFS drive to the destinations by pressing the + button:

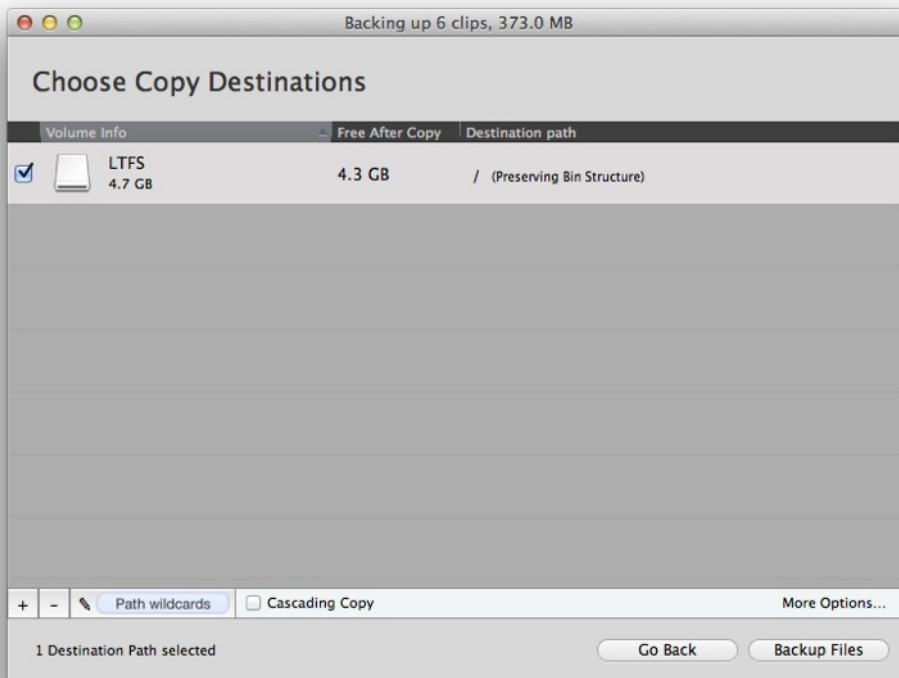


figure 4: LTFS destination selection

Finally click on «Backup Files» to start the copy process.

In order to keep track of the clips copied to a certain tape, it's possible to generate a Volumes Report. For more information on how to generate these reports in multiple formats, please check the article [Creating Reports](#).



Backup Data to SONY Optical Disk Archive

Silverstack offers the functionality of backing up data to SONY's Optical Disk Archive technology. You can use the backup function of Silverstack to write assets to the SONY ODA (Optical Disk Archive). Take a look at the article [Backup Clips](#) to learn more about the backup function.

It is also possible to use the Silverstack Offload functionality to directly copy data to an ODA.

Silverstack will automatically detect if the backup will be made to a SONY ODA and will therefore adapt its settings to optimize the copy process.

Important Aspects While Backing Up to SONY ODA

You have to avoid certain letters in file and folder names that will cause problems while backing up to the ODA. The next table represents the list of invalid characters:

Table 4 – 1 Invalid Characters

Code	Character
U+0000 – U+001F	
U+0022	"
U+002A	*
U+002F	/
U+003A	:
U+003C	<
U+003E	>
U+003F	?
U+005C	\
U+007C	
U+007F	(DEL)

Fig.2: List of invalid characters for backing up to Sony ODA.

Do not use the "Backup to LTFS" function to backup to a SONY ODA. There are certain constraints based on that particular backup function that e.g. will make it impossible to read clips quickly from the ODA again after backing them up. Stick with the regular Backup functionality in Silverstack when working with ODAs.

Managing jobs

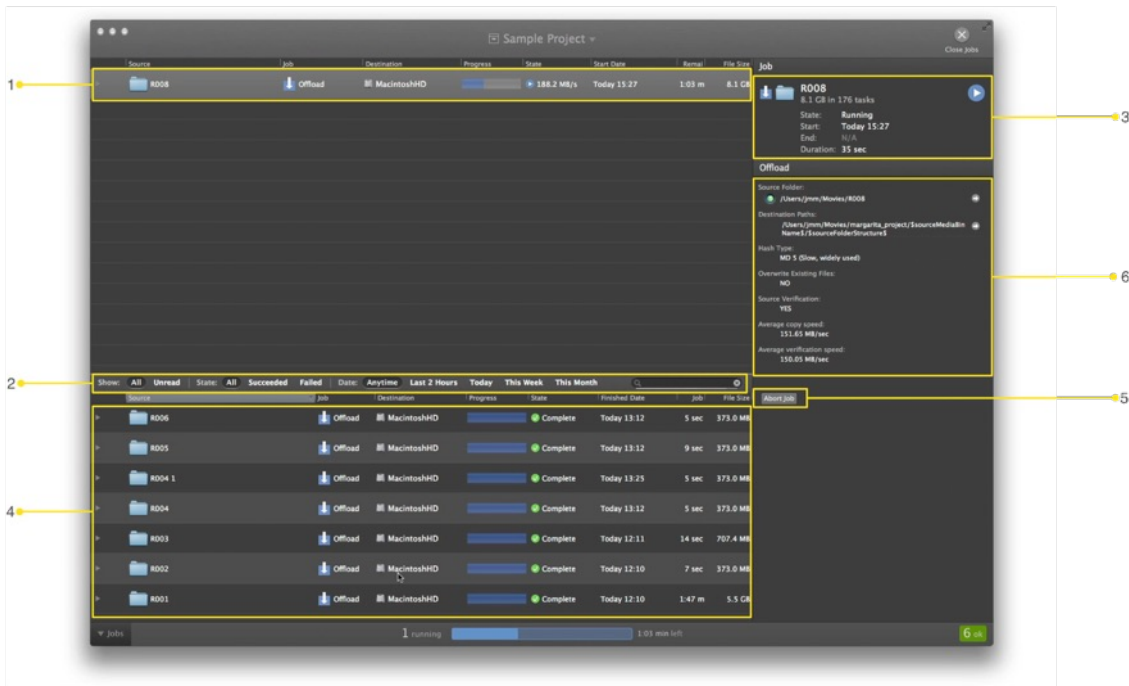


figure 1: Jobs panel UI

The Jobs panel shows all the running or finished jobs in Silverstack. This panel is divided in two main parts: running jobs (figure 1 #1) and jobs history (figure 1 #4). The items shown in the jobs history can be filtered using the buttons and search field shown in figure 1 #2.

Different kinds of jobs are displayed in the jobs panel:

- Offload jobs
- Backup Jobs
- Verification jobs
- Transcoding jobs

When a job is selected, its details are displayed in the right panel. Figure 1 #3 shows general information about the job. Figure 1 #6 shows specific information about the kind of job selected, like average copy speed or the setting used in an offloading job.

Restarting/Aborting

The behavior in Silverstack when restarting a job has been improved since v4. When a job is marked as «failed» or «aborted» by the user (figure 1 #5), it can be restarted and Silverstack will only resume the missing files from the job.

Special cases

Cascading Copy jobs are split into two different items in the jobs panel. The first of the jobs shows the «1st Run» copy and the second one the «2nd Run» copy.

Backup to LTFS jobs are also split into two jobs. The first job is the copy job and the second one is the verification process.

Checksum verification methods

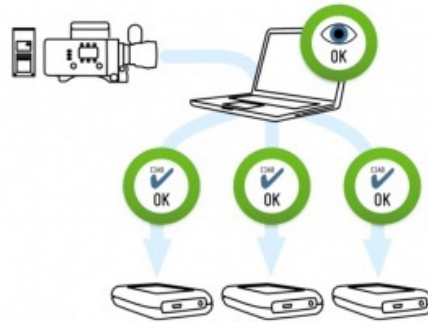


figure 1: checksum verification

Silverstack offers multiple verification methods to compare byte by byte the source file with all of its backup copies. The verification process ensures that no file has been corrupted during the copy process. If the verification process result is positive, Silverstack will create an .mhl file in the main folder of each backup destination. This .mhl file is the seal of file integrity of all copied folders that should go always together with its files, as it will let the user to manually verify each copy of the files to ensure their completeness and consistency.

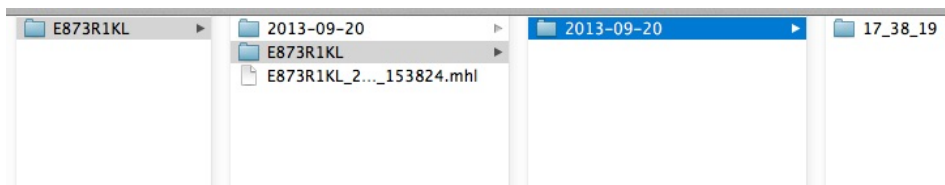


figure 2: .mhl file placement

Hashing algorithms explained

Hashing algorithms are functions that take a certain amount of data (i.e. a file) and calculate a unique, reproducible, fixed-length “hash value”, typically a relatively short hexadecimal (“hex”) value (consisting of digits and the characters from A to F) out of any given payload data, e.g. file. Already the smallest changes in the payload data result in a totally different hash value. This property can be utilized in a wide range of applications from cryptography to file verification.

In media workflows hashing algorithms are used to identify changes in a file without having the original file at hand by creating the hash value of the copy and comparing it to the given hash value of the source. If the hash value of the copy is the same as the hash value of the source, it can be inferred, that the content of the copy is the same as the content of the source.

Image	Data	Hash Value
	6D50B17B2F38D21B0E3 BFEBFAAE7783B75DE0 F033EDBF5BF8EF05FB7 94CFD7BBA7BC17E0F5A BD9B383671EF0BF0816 EAFF40069086801AC67 DE386B13BE860FBD5F7	33D1178DBCAD501A
	6D50B17B2F38D21B0E3 BFEBFAAE7783B75DE0 F033EDBF5BF8EF05FB7 94CFD7BBA7BC17E0F5A BD9C6EE671EF0BF0816 EAFF40069086801AC67 DE386B13BE860FBD5F7	D2C8AFDBACECE0B2

There exist a lot of different algorithms for creating hash values from data. These are the properties of hashing algorithms:

- Computing complexity: More complexity in the hashing algorithms require more computer power to be calculated, decreasing performance.
- Collision probability: It defines the probability that different files have same hash (high probability is bad)
- Detection of modifications: modifications in a file lead to different hash (very important)

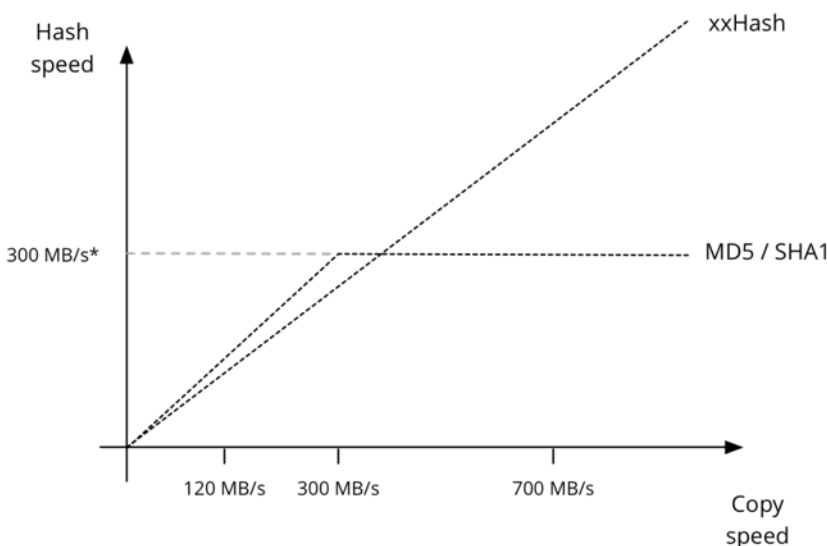


xxhash compared to md5 and sha-1

- xxHash
 - Computing complexity: very low
 - Collision probability: low
 - Detection of modifications: very good
- MD5 and SHA1
 - Computing complexity: high
 - Collision probability: very low
 - Detection of modifications: very good

Real world numbers

- MD5 is widely used. It comes from an encryption background, but it can also be used to detect transfer errors. Limited to 300MB/sec on recent hardware. MD5 is so complex to calculate, that more than 300 MB/sec is not possible on today's computers. It checks the entire content of each file and its size.
- SHA1 also comes from an encryption background, but can also be used to detect transfer errors. Limited to 300MB/sec on recent hardware. Checks the entire content of each file and its size.
- xxHash is not a cryptographic algorithm. For detecting transfer errors is as safe as MD5. However, it is incredibly fast. In theory it can generate check sums at several GB/sec. Checks the entire content of each file and its size. Specially useful with high speed data transfer hardware. Only faster than MD5 or SHA1 if the transfer speed of all the sources and destinations is higher than 350MB/s. Caution! Below 300 MB/sec xxhash can be a bit slower than MD5/SHA-1, but beyond it's much faster, because md5 can't get faster and xxhash goes up to a few GB/sec.
- xxHash64 BE (Big Endian): generally the same as the xxHash algorithm. However, it outputs a hash string in hexadecimal values, which makes it more compatible with some post production workflows. It is potentially faster on very large data transfer rate setups. This hashing algorithm is compatible with Google's xxhash implementation. Endianness information: <https://en.wikipedia.org/wiki/Endianness>
- xxHash64 LE/legacy (Little Endian): generally the same as the algorithm xxHash64 BE (Big Endian). However, it outputs a hash string in a Little Endian format. Used in legacy workflows. Endianness information: <https://en.wikipedia.org/wiki/Endianness>



*Hashing speed limited by the performance of one processor core.

Hashing algorithms in Silverstack

The different verification methods (hashing algorithms) are selectable from the Offload and Backup wizards:

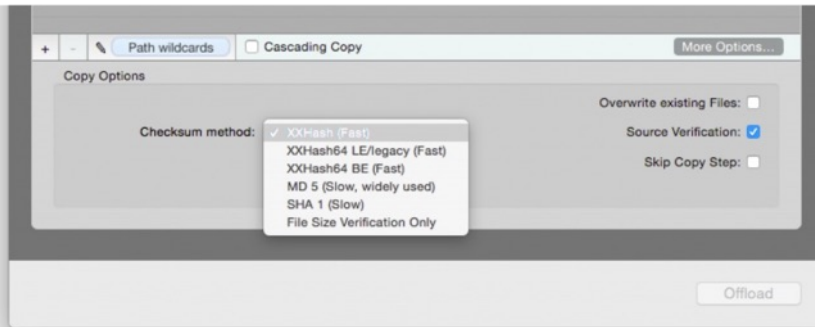


figure 3: checksum methods

Source verification

As shown in figure 3, by default Silverstack does a source verification with each copy, meaning that the files are read from the source again after being copied. This is the most secure way to ensure data integrity because it's possible to detect read errors too. However it is possible to speed up the copy and verification process by disabling this option. In that case the files are only read from the source once when making the actual copy. If the source is extremely slow, it could make sense to disable it, as it can slow down the verification process. Only then it should be skipped, as it doesn't affect the process if the source is as fast as the destination.

MD5 files generation

There is the option to create MD5 files in addition to the MHL ones. This will give compatibility for any post production process asking for this kind of files. The MD5 legacy files are **only created when the MD5 verification method is used**.

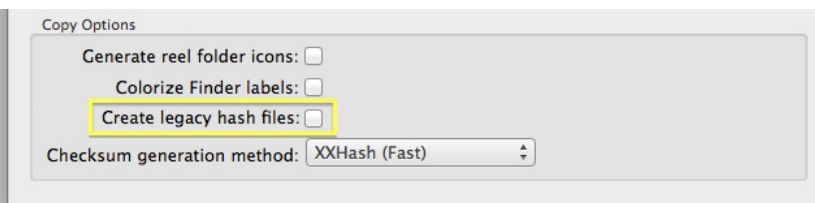


figure 4: create legacy check sum files

Sources:

<https://code.google.com/p/xxhash/>

Analyzing and improving data-transfer performance

Data transfer performance can be a very important issue in time-pressing environments such as scenarios of on-set data wrangling.

For a general list of factors that influence the speed of data-transfers such as

- **storage technology**,
- **RAID technology**, and
- **interfaces**

please refer to the document [“Factors for data-transfer performance”](#).

How to analyze your setup for bottle necks

Every system is only as fast as the slowest component. So for example attaching a brand new, ultra-fast SSD to a computer via USB2 is no improvement in performance over a 5 year old HDD – the USB2 interface is the limiting factor. The following list helps you to find the bottleneck and to tune your setup for higher performance. Sometimes just using different connections (lots of devices have multiple, different connection ports) or replacing one component already can heavily improve the performance of an entire data-transfer system.

When for example copying data from e.g. a SxS card to an external RAID and a USB3 drive with Silverstack, a lot of components are involved – and the slowest one is slowing down the overall performance and thus all the other components.

In this example we can identify three data storage devices that are each consist of several components:

- SxS card
 - the SxS card itself
 - the card reader for the SxS card
- RAID system
 - the interface to the RAID system
 - the RAID system and its configuration
 - the drives in the RAID system
- External drive
 - the interface to the external drive
 - the drive itself

1. Measure the maximum performance of each device

You can determine the speed of a device by measuring the read and write speed to that device individually and independently. On the Mac you can either use tools like [Blackmagic Disk Speed Test](#) or use command line tools such as “[dd](#)”.

Note:

Please note that the operating system caches disk access in RAM. So if you write a small file to disk it is still in the cache and a directly following read test will retrieve that file directly from RAM, so that the disk is not used at all in your test! So make sure that your test files are large enough (e.g. larger than RAM). As a good measure you can always use “Activity Monitor” that comes with OSX to monitor drive usage and performance (use the “Disk Activity” tab). For example when accidentally retrieving data from cache during a test you will detect that as zero activity on the drives in Activity Monitor.

Comparing the performance values of the different devices, you now know the slowest device. This device will slow down the entire data transfer, so maybe you can improve that first.

2. Observe the overall performance during the copy process

Now find out if the expected performance can be observed during a real life test. Start a copy process to multiple destinations in Silverstack and use Activity Monitor as your instrument for measuring performance.

In Activity Monitor you will see the current overall performance. So if you let Silverstack copy the contents of a SxS card to two drives simultaneously, you should see a write performance that is twice as high as the read performance during copy. After copying a verify-phase follows that reads the files from the two destinations and the source again. So you should see a very high, combined overall read performance.

In our example take the read- or half of the write-performance value during copy and use this value as your current reference copy performance. Compare it to the measured performance value of each device. It should be around the speed of the slowest device. If the reference performance value is much lower than the speed of your slowest device, there might be problems with daisy chaining.

3. Analyze the slowest device

If the speed of your slowest device (and thus the observed reference copy performance) is much slower than the speed of the other devices it might be worth improving that.

- Determine the speed of the drive by estimating the theoretical performance of the used drives by technology (HDD, SSD, RAID).
- Determine the theoretical speed of the interface.

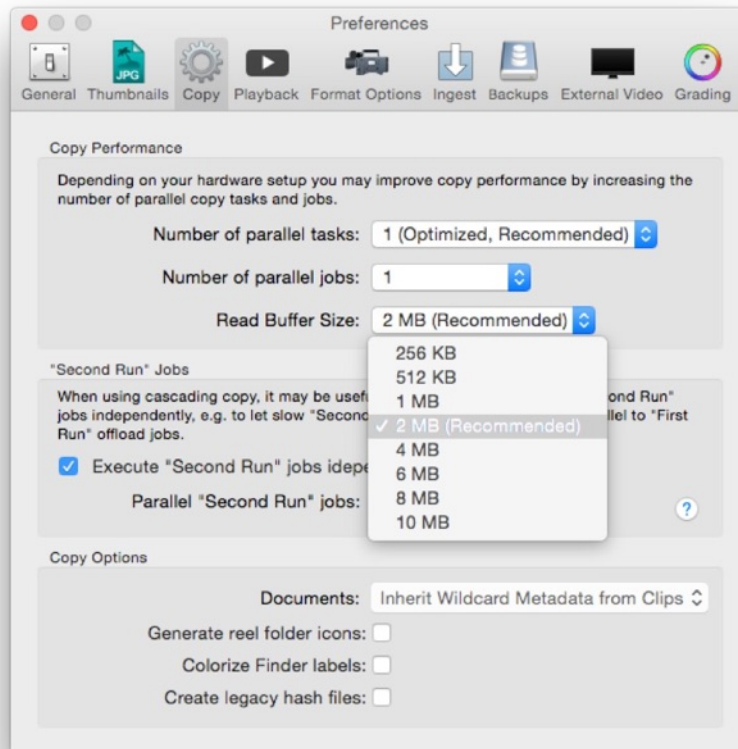
You can now relate these values to your measured values for the entire device. If you experience completely odd values, maybe something is configured wrong (attaching a USB3 drive to a USB2-only port) or a component is

faulty.

If the interface is the limiting factor, maybe you can change that by switching the enclosure with a better interface. Maybe there is a card reader with a faster interface available. If the drive is the limiting factor, find out if the drive is exchangeable with a similar or newer drive with better performance.

Modifying the read buffer size settings

The read buffer size settings use «2MB, recommended» as default. However, increasing the read buffer size might help when copying to software raids on OS X. Decreasing below the 2MB recommended value is usually not advised. The 2MB size recommendation is only illustrative. The optimal size depends on your specific setup and format combination.



Preferences Menu: read buffer size

Adding Clips to the Library (Ingest without Copy)

There is a fast solution to create references to video clips in the Project Library in Silverstack. Instead of copying clips to another storage device, you can select to just ingest them. This process allows a faster way to have the clips in the Project Library for subsequent tasks such as backup, LTFs backup, quality check or metadata editing.

In order to add the clips, simply select “**File > Add to Library...**” or use the keyboard shortcut $\text{⌘} \text{⌘} \text{O}$:

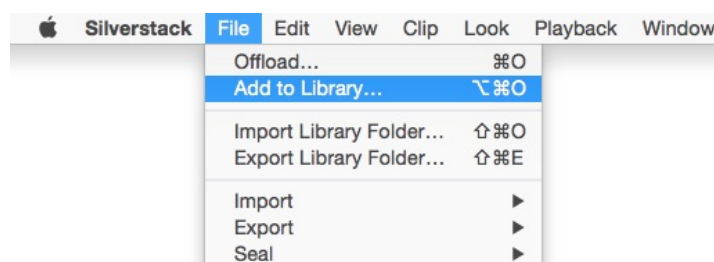


Fig. 1: File menu

After selecting the folder containing the clips, the ingest wizard opens:

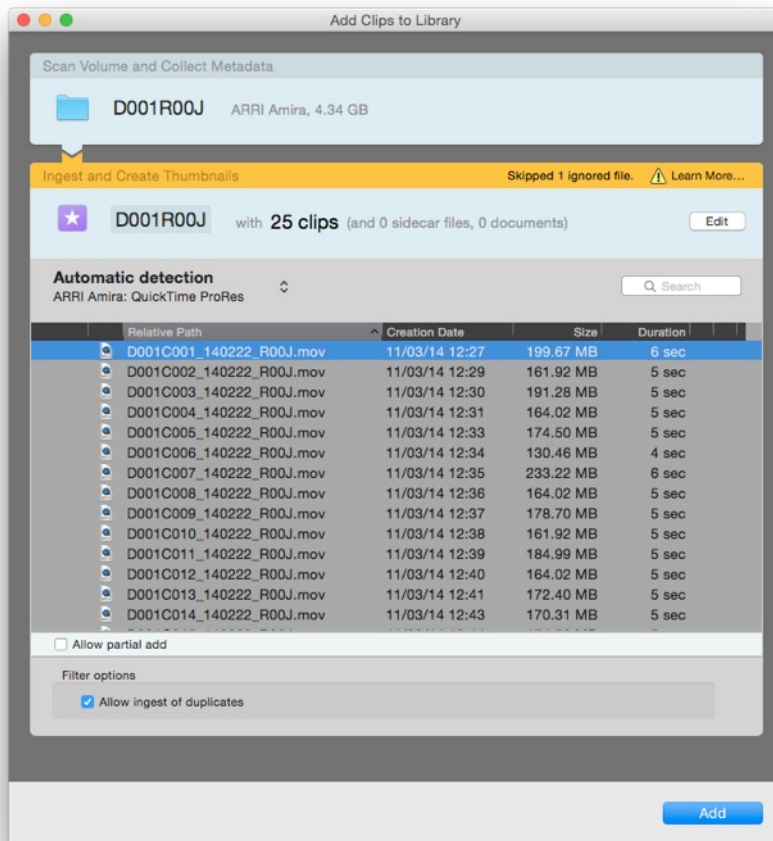


Fig 2: Ingest wizard

The ingest wizard allows you to check which clips are being ingested before proceeding. Once you click on «Add», Silverstack starts creating the references for the clips in the Project Library by reading the metadata and creating the thumbnails. After the thumbnail creation is finished, the clips will be available in the library to start working with them:

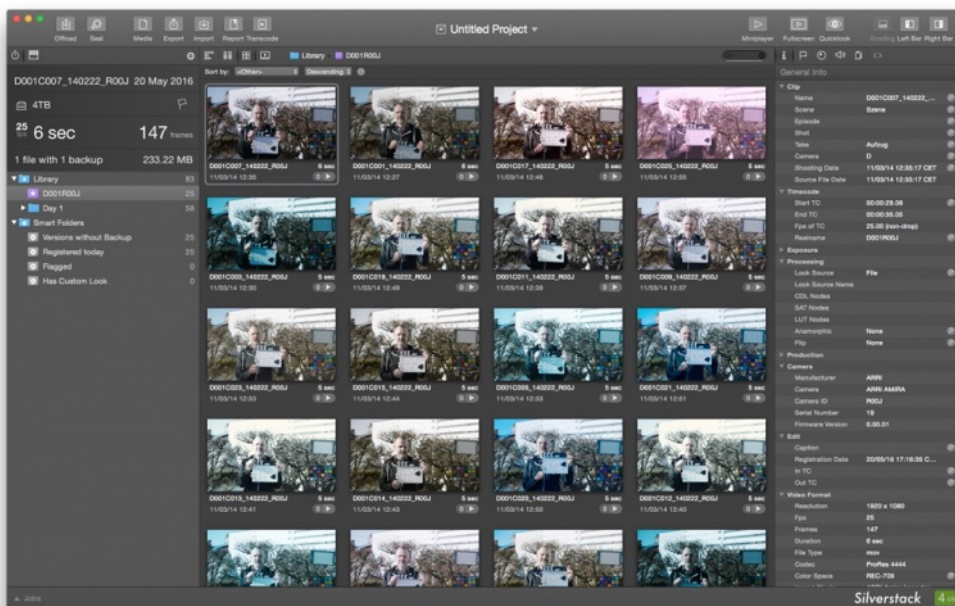


fig. 3: Project Library

Drag & Drop Clips

Alternatively, you can also ingest clips by drag and dropping the containing folder into the Silverstack dock icon or the Silverstack Library Folder. When using this functionality for the first time an alert will ask you what you want to do:

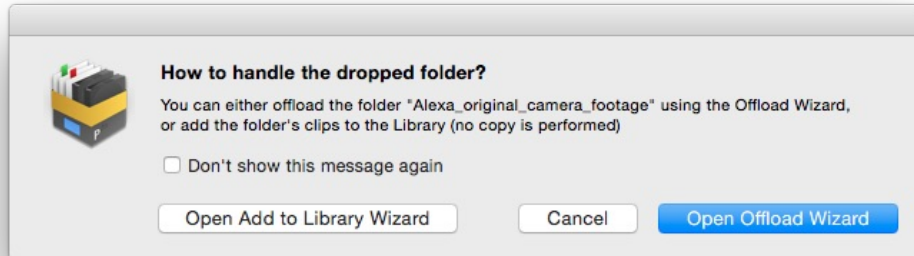


Fig. 5: Ingest warning message

If your intention is to only register the clips, please select the option «Open Add to Library Wizard». The process is the same as previously described. Otherwise, select «Open Offload Wizard» if you decide to copy the media to backup drives in addition to registering the clips in the Project Library.

In case you enable the checkbox «Don't show this message again», Silverstack will always use the selected option in the future.

Use Silverstack's clip library for EDL conform

EDL files usually represent a timeline from editing systems such as Avid Media Composer and thus contain an ordered list of clips represented by timecode data and optional reel and clip information.

You can use an EDL in the CMX 3600 standard to consolidate clips from Silverstack's Library in a new Bin. From there you can for example copy all required clips from the EDL to a separate hard drive.

Use Case

As an example we assume that the editor used five clips which we now need to transfer to a VFX facility. Instead of shipping several hard drives with all the source footage, or manually searching them in huge folder structures, you can automatically collect them by using the EDL import feature in Silverstack.

Silverstack matches the timecode from the EDL with the source timecode of clips in the Library and creates a new Bin with the matched clips. From there it is easy to backup the clips to a single destination via the [backup function](#).

Step By Step

We will describe briefly a typical workflow with Avid Media Composer 6.5.

1. Choose your timeline in AVID Media Composer
2. Then in the MainMenu press Output > EDL . The Avid EDL Manager will open as seen in figure 1
3. Press the "Get Sequence" Button to load the timeline
4. Make sure that the EDL settings are CMX3600 like in figure 2
5. Click in the MainMenu File > Save As... and export the file to your Desktop

Silverstack Part

6. Open up Silverstack and choose the corresponding project.
7. Press the "Import" Button in the Main Bar and choose the "Edit Decision List" option
8. Choose the EDL file from the Desktop
9. If not set automatically, make sure that you choose the same frame rate like in the metadata of your clips like in figure 3
10. Silverstack will match the clips and add them to a new Bin.

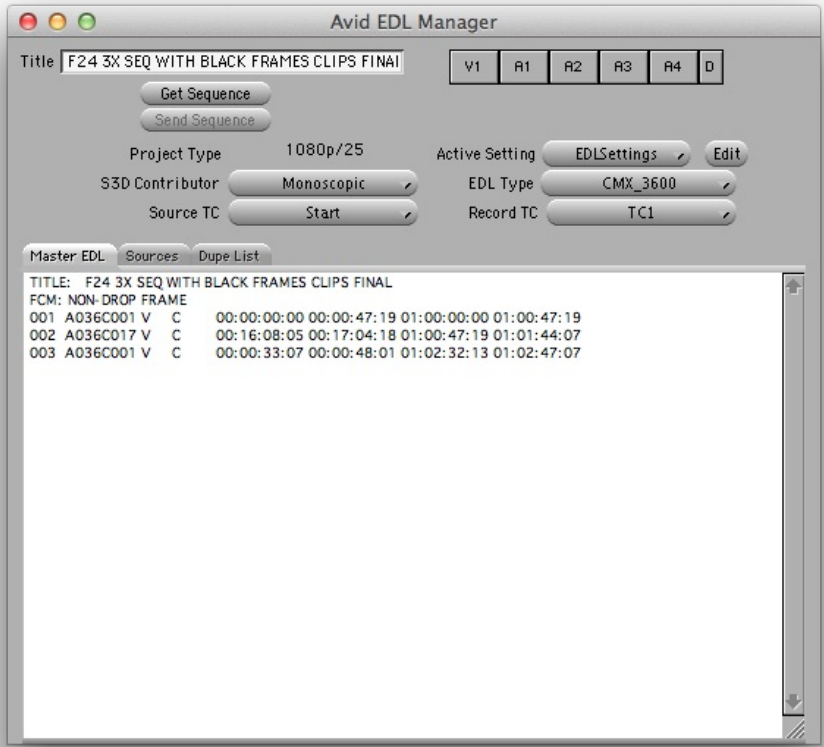


Figure 1: Avid EDL Manager

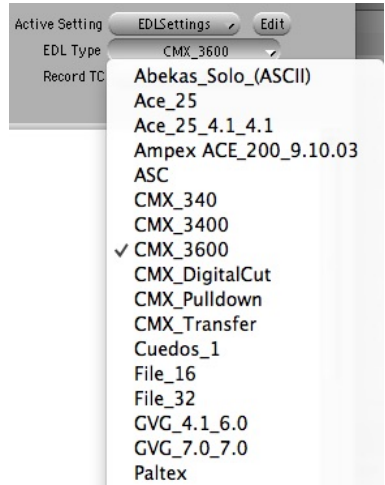


Figure 2: EDL Setting in the EDL Manager

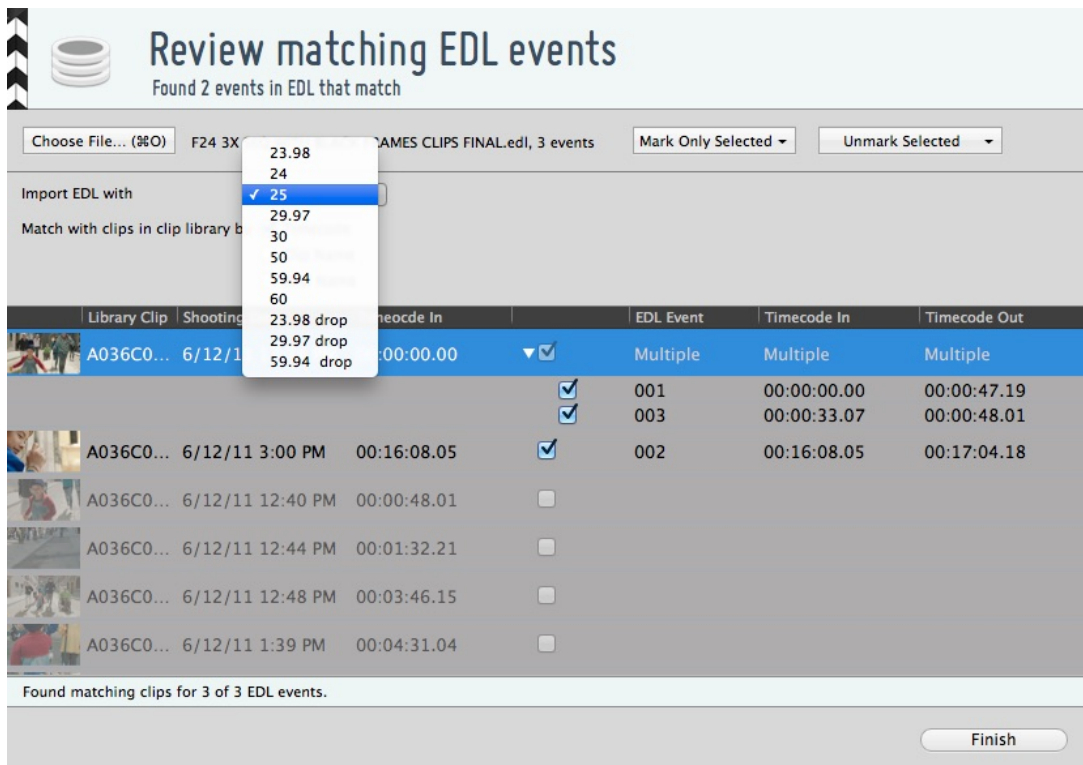


Figure 3: Import wizard for EDLs in Silverstack

This feature is available in Silverstack 3.1 and newer.

Sealing Drives in Silverstack

The sealing functionality allows Silverstack to make a full inventory list of a drive. This is important, not only to assure that the content of a drive is identical to the source material but also to make sure that the content on a drive is complete and reflects the intention of the sender. By sealing drives as well as directories the whole content becomes registered to notice any change inside the folder in the future. The sealing process enables you to use the free tool [Pomfort SealVerify](#) to verify the consistency and completeness of a drive at any generation later without having access to the original media.

Silverstack allows you to seal volumes as well as folders. For simplicity reasons we may only refer to “sealed volumes” or “sealed drives” below but want to make clear that the same procedure will work for sealed folders.

What Does the Sealing Do ?

The sealing procedure bases upon the existing and widely used MHL technology and extends its functionalities. During the sealing process Silverstack writes a .pfsf file on the drive which we refer to as the “Seal”. This seal keeps all content information together and ensures that every change to the seal itself or any referenced information can be detected at any time. The free application Pomfort SealVerify can be used to easily verify the integrity of a sealed drive.

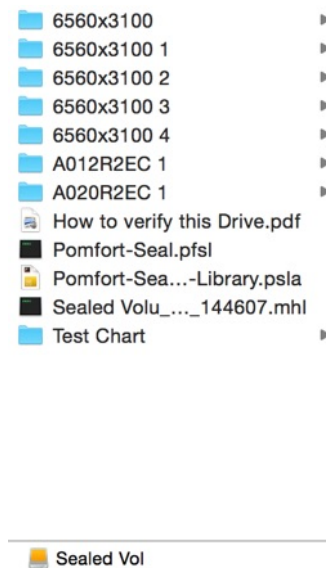


Fig. 1: Finder screenshot showing the contents of a sealed drive

To learn more about the Pomfort Seal please visit the article [Understanding the Pomfort Seal](#).

How to Seal a Drive or Folder

To **seal a drive** click on the “Seal” button in the Silverstack task bar and choose the drive you want to seal:

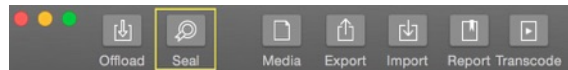


Fig. 2: The Silverstack header bar with the “Seal” button

The sealing wizard opens up and will guide you through the sealing process

To **seal a folder** go to the main menu and choose “**File > Seal > Folder...**”.

[fig. 3 Main Menu File Seal Folder]

After choosing the intended folder the sealing wizard will guide you through the process.

The list shows all attached volumes that have been used as a destination in the current project. The button may be disabled if no such volume is attached.

Providing the Seal Info

In the first step of the sealing wizard you can enter the information that will afterwards be present in the Seal Info:

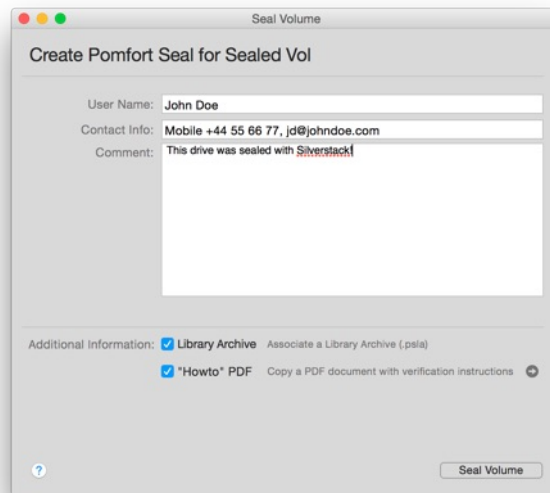


Fig. 3: The first step of the sealing process.

With the two checkboxes you can choose to:

- Put a Sealed Library Archive on the sealed drive. Learn more about Sealed Library Archives from the article [Importing Sealed Library Archives in Silverstack XT](#).
- Put a “How To Verify This Drive”-PDF on the drive. It contains information for the receiver of the sealed volume and explains how he will be able to verify the drive.

Additionally you can enter information that will be transmitted along with the Seal Info and will e.g. be readable by Pomfort SealVerify or when [Importing a Sealed Library Archive in Silverstack XT](#).

The Seal Info contains the following information:

- Name of the person who sealed the drive or folder
- Contact info like e.g. phone number or email address etc.
- Time
- UUID
- Comment
- Silverstack Version
- Host
- Username
- Operation System

Enter the information accurately to make sure the receiver of a sealed drive will be able to receive extensive information and can contact you in case of a problem.

The Sealing Procedure

The sealing procedure consists of several individual tasks. While some of them are self-explanatory others need detailed attention:

Lost and Found Items

Silverstack scans the drive for files that have not been copied with Silverstack and therefore are not referenced in any MHL file. Those files are collected and ingested into an automatically generated folder called “Lost and Found” inside the Silverstack library. Like this, the files will also be registered within an MHL file that will be placed on the drive.

Please note that the “Lost and Found” items will be referenced by file size only. It is recommended to copy all content with Silverstack to obtain maximum security with checksum verification.

Library Export

After a successful sealing process the Silverstack library will contain the complete content of the sealed drive or directory. The library export option will place a Silverstack library file (.psla) on the drive. By using the library

import option in Silverstack XT, an identical Silverstack library containing the complete and verified content of a drive can be guaranteed. The verification of the content can be handled by the free application [Pomfort SealVerify](#).

Verifying a Seal

Seals can be verified and checked for integrity with the free application **Pomfort SealVerify**. Please visit the [KnowledgeBase section about Pomfort SealVerify](#) for more information or [download here](#).

If you are looking for a way to import sealed drives in Silverstack XT please refer to the article [Importing Sealed Library Archives in Silverstack XT](#).

The Seal Info Panel for Sealed Volumes

You can open the seal info for a sealed volume from the Volumes panel. In the left bar of the Silverstack main window scroll the library down until you arrive at the “**Volumes**” entry. In the right bar you will then be able to open the Seal Info by clicking on the button “Seal Info” on the side of the volume showing the seal:

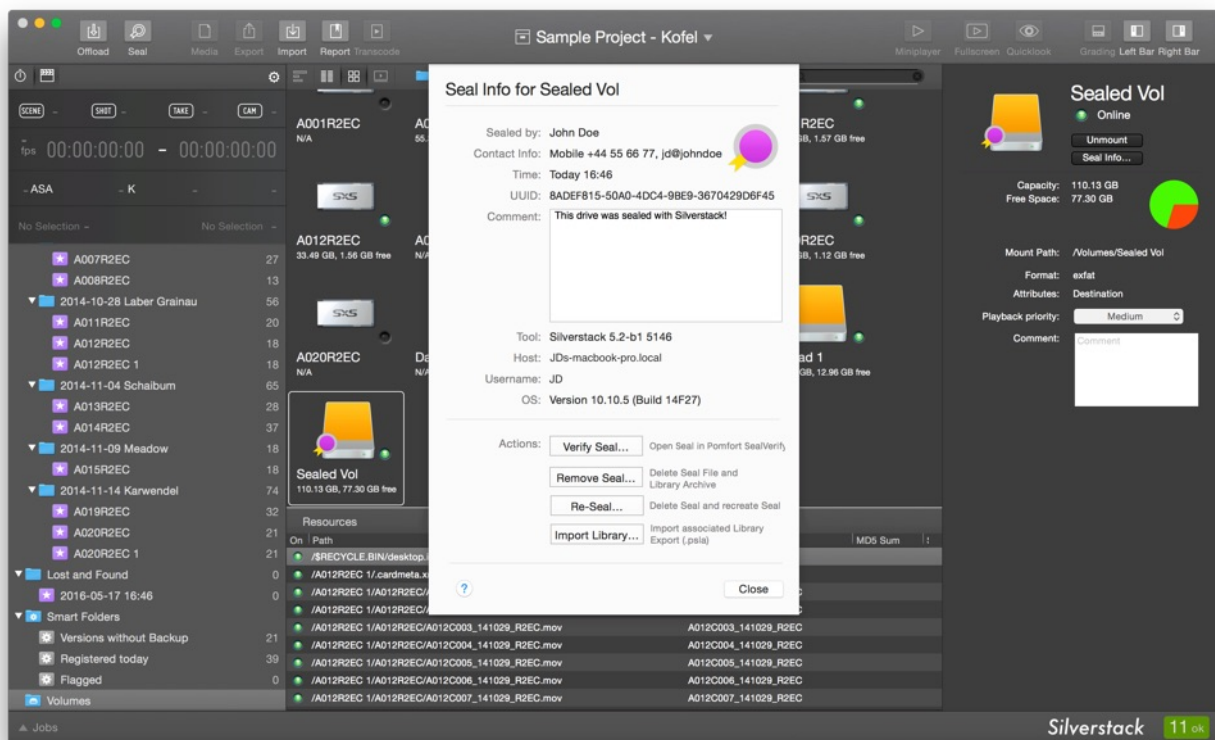


Fig. 4: The Silverstack volumes panel with the Seal Info.

From there **several actions** can be taken:

- **Verify Seal:** When you have Pomfort Seal Verify installed you will be able to verify the integrity of the seal. Click the button to open the drive in [Pomfort SealVerify](#).
- **Remove Seal:** You can delete the Pomfort Seal file and the Seal Library Archive.
- **Re-Seal:** Delete the seal and recreate a new one with your own seal information.
- **Import Library:** Import the associated Sealed Library Archive (.psla) that populates a Silverstack Library containing the complete content of the sealed drive or folder.

Or click “**Close**” to leave the seal information again.

Importing Sealed Library Archives in Silverstack XT

The import of sealed Library Archives enables you to populate a content complete Silverstack Library into a new Silverstack XT project that includes *all* assets of the sealed drive or folder. You can benefit from that process by including a Library Archive export when sealing a drive in Silverstack. Additionally the free tool **Pomfort SealVerify** enables you to perform a completeness and consistency check of the present content. Learn about the

process of sealing drives with Silverstack from the article [Sealing Drives in Silverstack](#).

Importing a Sealed Library Archive

Open Silverstack. In the Main Menu go to **“File > Import > Sealed Library Archive...”**:

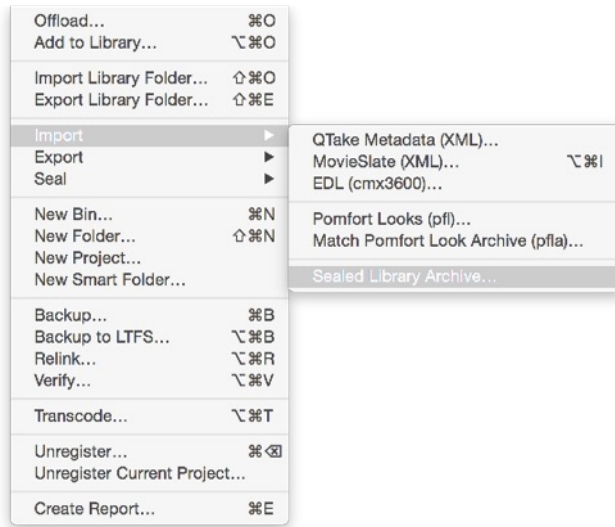


Fig. 1: Choose Import > Sealed Library Archive to import a Sealed Library Archive

In the open dialog that appears select the sealed folder that contains the Sealed Library Archive along with the Pomfort Seal you want to import .

After clicking “Open” the Seal Information panel opens up:

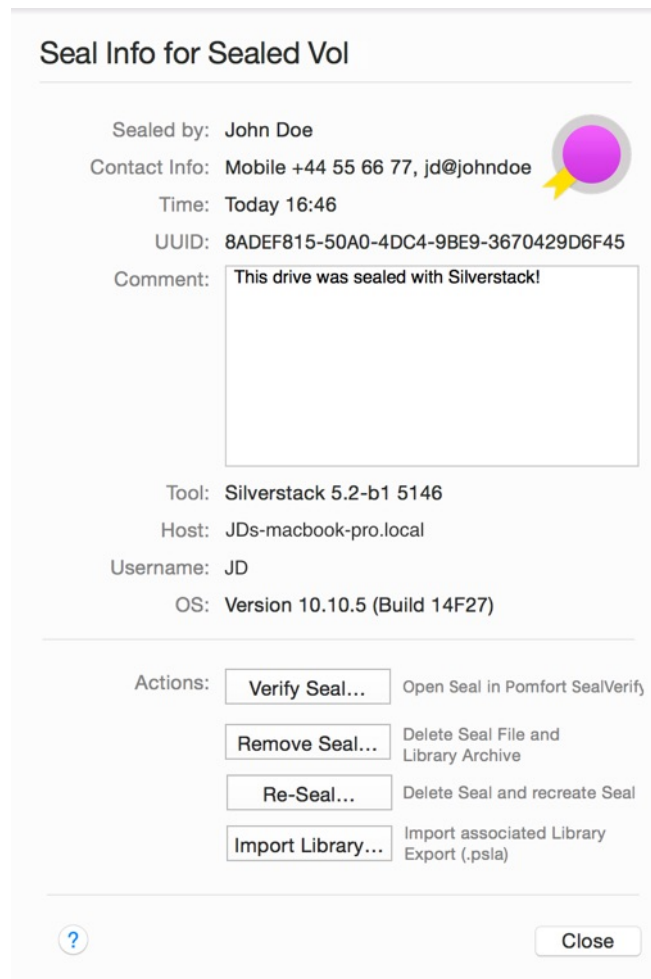


Fig. 2: The Seal Info for the opened volume

The seal information comes from the person who sealed the drive in Silverstack.

Several Actions can be taken from here:

- **Verify Seal:** When you have Pomfort SealVerify installed you will be able to verify the integrity of the seal. Click the button to open the drive in [Pomfort SealVerify](#).
- **Remove Seal:** You can delete the Pomfort Seal file and the Sealed Library Archive.
- **Re-Seal:** Delete the seal and recreate a new one with your own seal information.
- **Import Library:** Import the associated Sealed Library Archive (.psla) that populates a Silverstack Library containing the complete content of the sealed drive or folder.

Click the button “**Import Library**” to start importing the Sealed Library Archive.

The standard library import wizard will guide you through the process of importing the library:

Learn more about this process from the article [Library Metadata Exchange](#).

Sealed Library Archive vs. Library Archive

The Sealed Library Archive basically is a Silverstack Library Archive with additional benefits. As it can only be created in the process of sealing a drive or folder with Silverstack the library will always contain the complete content of the sealed volume. Additionally [Pomfort SealVerify](#) can verify the content of the library to assure consistency with the original data.

Understanding the Pomfort Seal

This article will help you understand the intention and background of the Pomfort Seal.

The Pomfort Seal



The Pomfort Seal complements the widely used and production-proven MHL standard for checksums and can only be produced by Silverstack. During the sealing process, Silverstack creates a seal file (.pfs) that references all MHL files on the drive. An additional MHL file will be created for all data that was detected on the drive but was not copied onto it with Silverstack. The Pomfort Seal holds all this information together and is even secured against altering the seal itself. Any kind of change of the data on the drive will break the seal and will therefore be detected by [Pomfort SealVerify](#).

Please note that the term of “sealing” has nothing to do with encryption of the data on a drive. The Pomfort Seal does not limit the access to your data. The sealing process aims for integrity, consistency and completeness of data. The term “sealing” is not used in a way that implies a “blocking” or “locking” of data.

Sealed vs Unsealed

The following table will show you the advantages of a drive sealed with Silverstack:

	<i>consistency</i>	<i>consistency + completeness</i>
MHL only <i>(misc. copy tools)</i>	YES	NO
MHL + Pomfort Seal <i>(Pomfort Silverstack)</i>	YES	YES

MHL files (or other hash files such as .md5 files) basically carry hash values and filenames. With this information, you can verify the consistency of files without access to the original source files. The appropriate tools can determine if the contents of the files mentioned in the MHL file still have the same content as at the time when the hash values have been created. The MHL files are usually created during a copy process.

For a drive with multiple folders copied with multiple copy processes (for examples on a film set, where multiple camera cards are copied to the same travel drive), you cannot verify if one entire folder together with its MHL file is missing. This means with MHL files alone you can verify consistency of single files, but not the completeness of an entire drive.

To solve this problem, the Pomfort Seal contains a list of all MHL files on a drive. With this information, a missing MHL file can be detected very easily. This means that the Pomfort Seal together with the MHL files allows to verify consistency as well as completeness of a travel drive.

The sealing process in Pomfort Silverstack also searches for files on the drive that haven't been listed in MHL files yet. This ensures, that the Pomfort Seal together with the MHL files cover the entire content of the sealed drive.

Pomfort SealVerify is the free one-button process to verify the Pomfort Seal and the listed MHL files. This way a reliable copy chain can be built where both, consistency and completeness of media data can be verified at any time.

Quality Check

HD-SDI Output in Silverstack

Silverstack XT and Silverstack Lab come with HD-SDI output to play out ingested clips in best quality for QC on an HD-SDI broadcast monitor. The current clip in the player gets mirrored to the HD-SDI output showing the image in full-screen and 10 bit color depth.

Supported Devices

To enable the HD-SDI output you need one of the following devices:

- AJA T-TAP
- AJA KONA series
- AJA Io series
- Blackmagic Design Ultrastudio Products
- Blackmagic Design Mini Monitor
- Blackmagic Design Decklink Cards

Attach the according interface to your Mac (Thunderbolt or PCIe) and connect the HD-SDI output of the device to the selected destination.

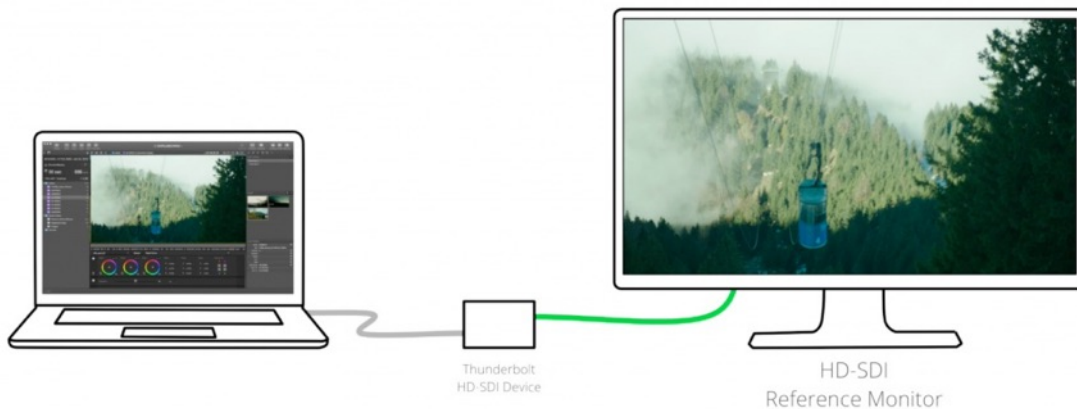


Figure 1: Schematic presentation of a Silverstack XT HD-SDI setup

Drivers

In order to use the supported devices you have to install all drivers and necessary software provided by the the manufacturer.

For Blackmagic Design devices that is the “**Desktop Video**” software you can download in [their support area](#).

For AJA Devices that are the “**AJA hardware drivers**” included in the latest “**AJA software installers**” also available in [their support area](#).

External Video Preferences

As soon as the HD-SDI device is connected, Silverstack XT requests permission to use it for playback. In case you decide to activate the SDI playback later, you can enable it through “**Preferences>External Video**”. You can disable the use of the device from the same menu in case another application demands its use (i.e. parallel use of the hardware with other software). If you have multiple output devices attached, you can select which one to use by choosing it in the drop down menu:

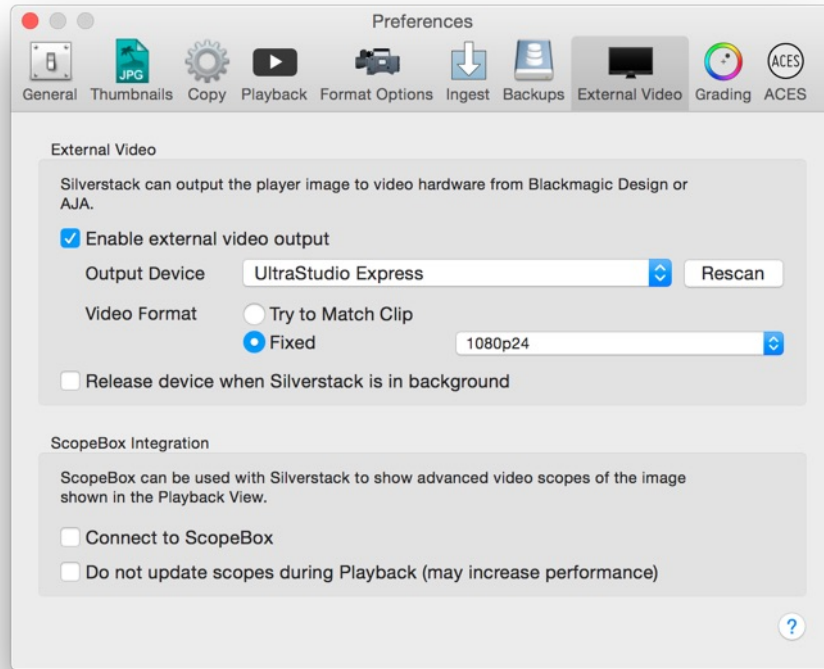


Figure 2: External Video settings

For the “**Video Format**” you will be able to choose from two settings:

- **Try to Match Clip:** This setting will try to match the output format of the SDI to the settings of the clips. Silverstack will try to keep the frame rate and fall back to HD if the resolution is not supported. If the frame rate is not supported it will fall back to 1080p25. In detail this means:
 - **Frame rate supported / resolution not supported:** Silverstack will keep the frame rate. The resolution will fall back to a 1920 x 1080 (HD).
 - **Frame rate not supported / resolution supported:** Silverstack will fall back to 1080p25.
- **Fixed :** This setting will let you choose the output format manually.

Additionally you can choose to release the device when Silverstack XT is in background by enabling the checkbox “**Release device when Silverstack is in background**”. By default it will be kept even if Silverstack XT is in background.

Please be aware that the support of SDI formats depends on the compatibility of the attached hardware device that the implementation in Silverstack bases on.

The HD-SDI Indicator

As soon as you enable the external video output in the preferences a little indicator in the toolbar of the Silverstack XT media player will give you hints on the status of the HD-SDI output:

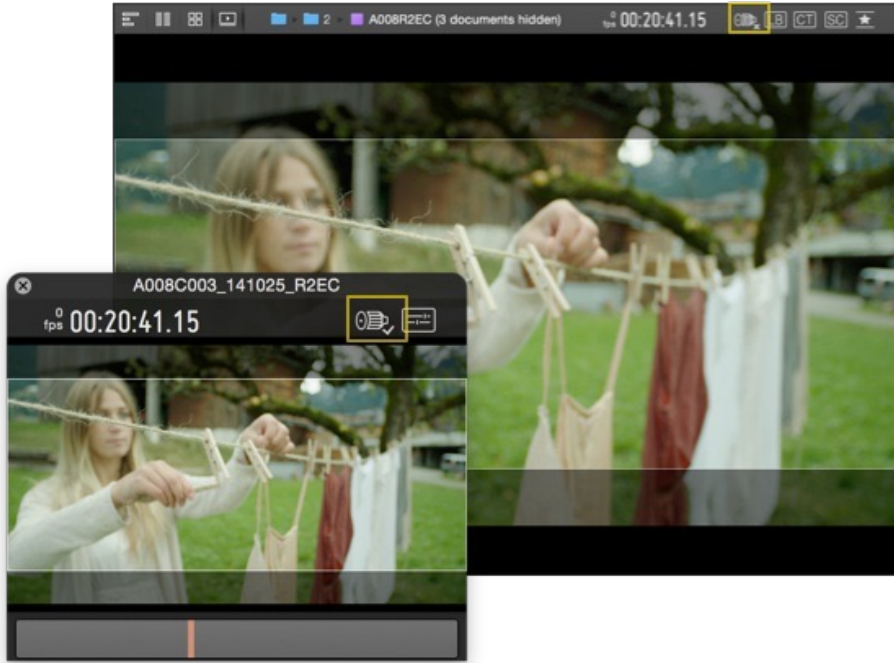


Figure 3: The HD-SDI indicator will show up in the toolbar of the media player and the [Miniplayer](#).

There are 3 statuses possible:

1. HD-SDI output enabled and working:



Figure 4: HD-SDI Indicator showing a working HD-SDI output.

Click on the indicator to reach the [External video out settings](#) with the settings for the HD-SDI output.

2. HD-SDI output enabled but no device attached:



Figure 5: HD-SDI indicator showing that no device is attached

Click on the indicator to reach the [External video preferences](#) to set up your attached device.

3. HD-SDI output has problems



Figure 6: HD-SDI indicator notifying about problems with the attached device

Click on the indicator to see details about the problem.

A usual case causing this status of the indicator would be another application that tries to use the same HD-SDI device as Silverstack XT. Deactivate the background use in the preferences of the application trying to use the same devices as Silverstack XT to avoid the problem.

Playback Modes

You can choose between **two** playback modes:

- **Absolute Time Playback:** Tries to play back footage in sync with audio. Silverstack XT will skip frames to stay in sync with audio when video processing or I/O is too slow.
- **Every Frame Playback:** Aims to play back frame exact which leads to loosing audio. Silverstack XT will play back frame exact even if that leads to non-realtime playback.

To select the desired mode go to **“Playback”** in the main menu of LiveGrade and select the according entry right at the top:

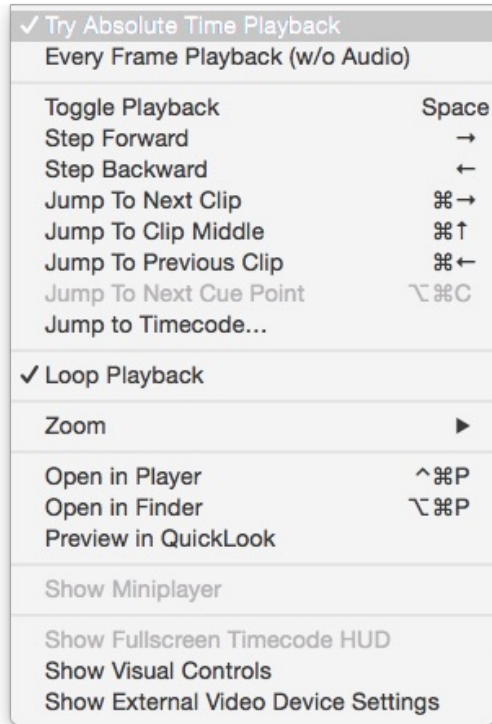


figure 7: Select playback mode from the main menu

Image processing

There are different options when it comes to display the clips through the SDI device. You can modify these settings on the External Video Out window.

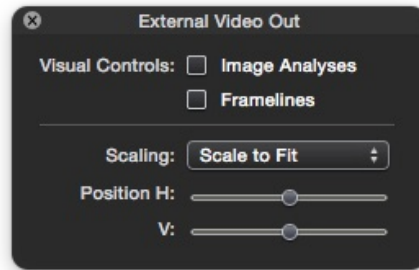


figure 8: External Video Out settings window

These are the available settings:

- Visual Controls: enable/disable the «Image Analyses» like False Color and Exposure Range, as well as Framelines. Learn more about frame lines from the article [Frame Lines in the Playback View](#).
- Scaling and Position:
 - Scale to fit: fills the output display with the image to compensate for a difference in the resolution.
 - 1:1 Pixels: displays the image in full resolution, which can crop the image if the output display has less resolution than the source.

Supported Frame Rates and Resolutions

Supported frame rates and resolutions are:

- 720p50
- 720p59.98
- 1080p23.98
- 1080p24
- 1080p25
- 1080p29.97

- 1080p30

Silverstack XT has a fallback resolution (1920 x 1080 HD) and frame rate (25p) that is executed when the desired resolution and frame rate is not supported by your hardware device. That means if either frame rate or resolution is not a native SDI format the SDI output will fall back to 1080p25.

Interlaced formats are currently not supported.

HD-SDI Features and Quality Characteristics

Color Reproduction HD video matrix and gamma (ITU-R BT.709; ITU-R BT.1886)

Timing Sync to next available video frame rates (see [Supported Frame Rates and Resolutions](#) and [Playback Modes](#))

Code Values 10-bit legal range YCbCr output (internal 16-bit RGB processing)

Embedded Audio Not supported

Metadata Output Not supported

The Miniplayer

Additionally, you can enable the Miniplayer from the same menu, which enables to monitor the same image sent through the SDI output on the computer display, at the same time as you navigate across the Project Library.

When the HD-SDI Output is enabled it will automatically open the Miniplayer to keep the HD-SDI output though you switched to the list or table view etc. As soon as you close the Miniplayer the HD-SDI output will be disabled.

You can reopen the Miniplayer manually from the Main Menu. Go to **“Playback > Show Miniplayer”** to open it up again. You can also open it from the Miniplayer symbol in the header bar on the right.

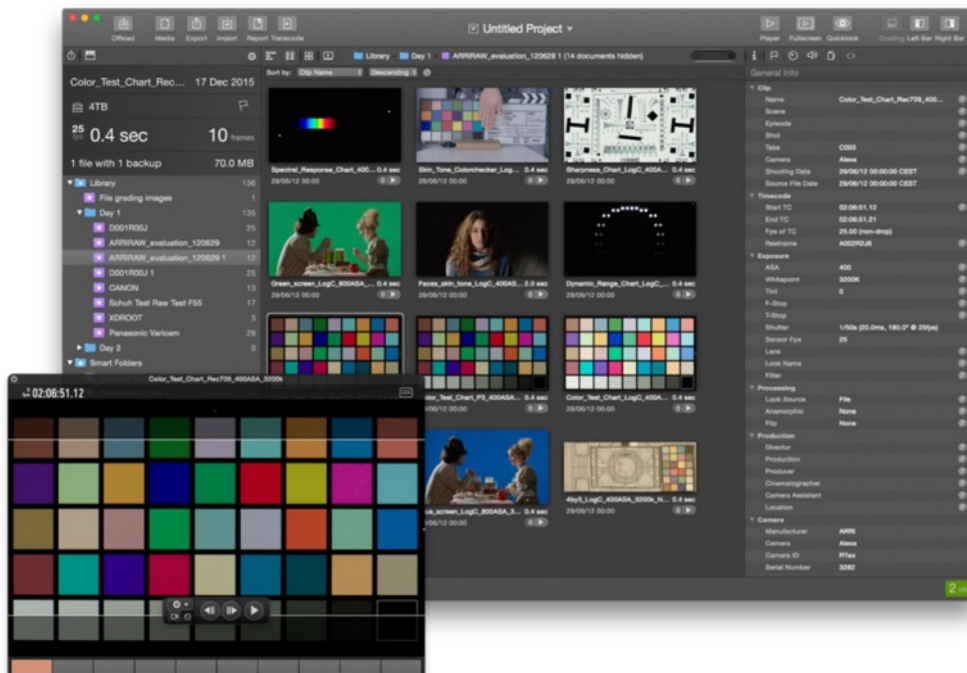


figure 9: the Miniplayer

Multichannel Audio in Silverstack

Silverstack offers audio playback of audio data embedded in video clips for preview and quality check. Audio can

also be transcoded in dailies and for the editorial department including a stereo mixdown or with the original audio tracks. The clips with embedded audio can be played back with sound and can be transcoded for the editorial department including all the audio tracks.

Silverstack supports audio features for these camera formats:

- Alexa ProRes
- Alexa SXT ARRIRAW (.ari)
- Amira ProRes
- Canon C300
- H264 from DSLRs (like e.g. Canon EOS 5D Mark II)
- Sony F55 XAVC
- Sony X-OCN
- Digital Bolex Cinema DNG
- Various Red Camera models (.r3d movies)

The audio settings per clip are grouped in the “Audio” tab. There you can modify the sound settings for each clip while in Playback mode:

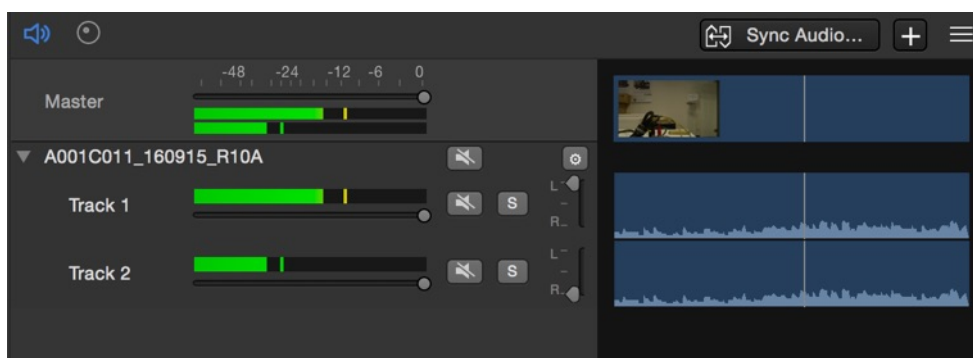


Fig. 1: Audio panel with audio tracks from ARRI Alexa SXT ARRIRAW (.ari)

The audio panel offers the following controls:

- **Master Volume:** controls the output signal level of the mix.
- **Audio meters:** represent the audio signal level during playback. There is a stereo Master meter and additional Channel meters — one for each audio track. The scale on top of the meters indicates the audio level in dB (dBFS). Peaking is represented by a bar in the according color of the peaking level that remains at the maximum position. You can reset the peak bar by clicking on the audio meters.
- **Channel mixers:** the sliders control the signal level for each track. You can mute specific «Left» and «Right» tracks by disabling the check boxes on the right of the channel mixers.
- **Mute button:** Mutes the according audio channel
- **Solo button:** Solos the according audio channel
- **Pan control:** Sets the panorama to left, middle or right

Basic Color Control in Silverstack

This feature allows users to display “Log” clips in a different color space by applying preset LUTs, user predefined custom 3D LUTs or color metadata (looks) embedded in clips (for selected formats¹). The color processing enables you to create thumbnails, playback and transcode the clips with a look applied. Alternatively, you can just use the file as it was recorded without any color processing (in the camera acquisition color space). By default, Silverstack reads the clip color metadata and applies a Rec.709 LUT if needed.

Editing the Look Source in the General Information Tab

It’s possible to modify the color processing of a certain clip or group of clips by setting a different Look Source in the General Information metadata tab, under the «Processing» section. In order to edit the Look Source of multiple clips, just select them from the library, click on the «edit» button and select an option from the list. Once you click on «Apply» all the selected clips will have the same Look Source.

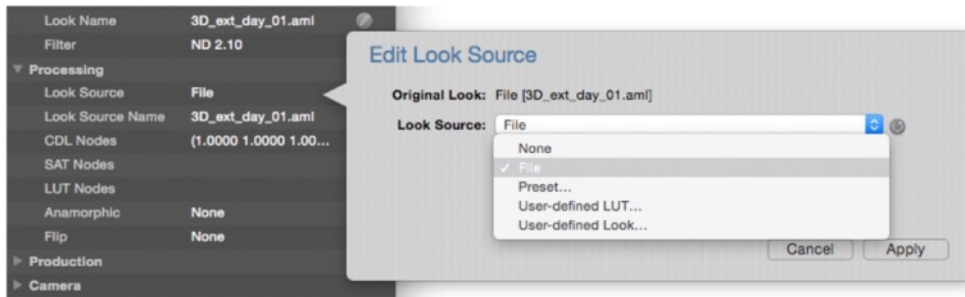


figure 1: Look Source settings on the General Information tab

You can choose from five different processings:

- **None:** Disables the color processing and displays the clips and thumbnails unmodified (as recorded).
- **File:** Reads the clip's metadata and applies the color processing described in the embedded looks. In case there is no look embedded, Silverstack applies the default Log to Rec.709 conversion for the specific format.
- **Preset:** with this option you can choose the color processing used from a list of preset LUTs
- **User-defined LUT:** Will enable you to manage a custom LUT.
- **User-defined Look:** Will enable you to create a custom Look with the Silverstack grade controls. More info in the section below.

Setting a User-Defined Look for Multiple Clips

From the Look Source selection you can choose the processing “**User-defined Look**” to enable a custom look for a clip. Select multiple clips and select the processing to enable it for all of them.

In the Silverstack player view you will then see the grade controls being opened up. You can learn more about the grading controls and the look library from the articles [Grading Controls in Silverstack](#) and [The Silverstack Look Library](#).

How to Apply and Manage Custom LUTs

One of the features related with the look control in Silverstack is the ability to apply custom LUTs to the clips. Users can load custom 3D LUTs generated by other software applications – such as LiveGrade Pro. When a custom LUT is used, Silverstack displays the thumbnails and playback with that look applied. Transcoding of the clips with that LUT is also possible.

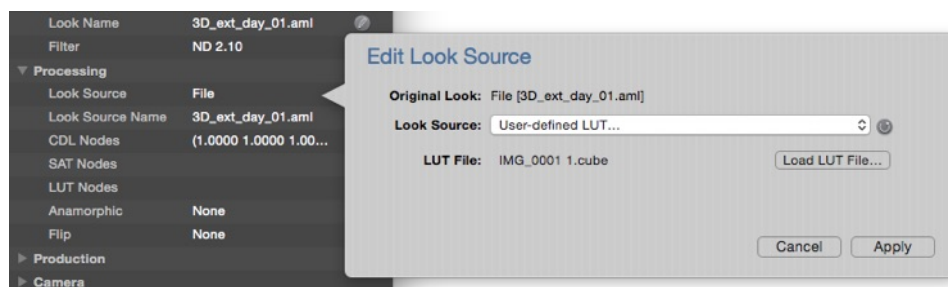


figure 2: custom LUTs loading

The supported 3D LUT formats are:

- .cube (32x32x32, 33x33x33 and 65x65x65)
- .3dl (32x32x32)

In order to load them, just select the Look Source to be «User-defined LUT...» and click on the «Load LUT File...». Then navigate through Finder to the LUT file, select it and choose «Open». Finally, click on «Apply» in the Edit Source pop up to apply the LUT to the clip.

Setting the Look Source for the Ingest of Clips

The color processing can take place automatically when ingesting the clips by reading their metadata or using a preset LUT. In addition, the look applied can be modified or disabled for each clip individually.

In order to automatically apply a look to the clips while being ingested, you have to go to the «Format Options» section on the «Preferences» menu:

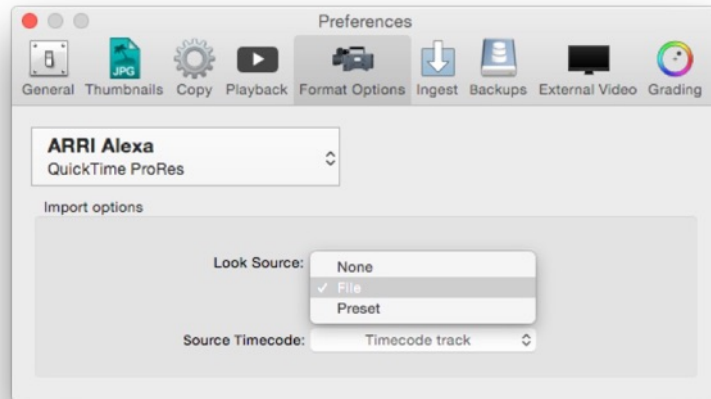


figure 3: Format Options

Each format allows you to define a different color processing. You can choose the format using the «Format Selector». Once the desired format is selected you can set the Look Source as:

- **None:** Disables the color processing and displays the clips and thumbnails unmodified (as recorded).
- **File:** Reads the clip’s metadata and applies the color processing described in the embedded looks. In case there is no look embedded, Silverstack applies the default Log to Rec.709 conversion for the specific format.
- **Preset:** with this option you can choose the color processing used from a list of preset LUTs:

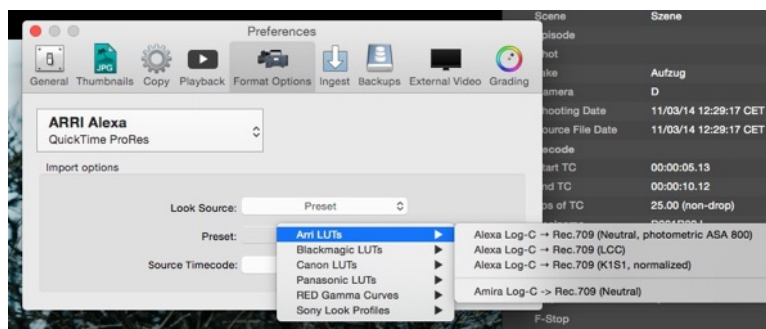


figure 4: Look presets

Setting the Look for Transcoding

While transcoding clips you can choose the look the clips will be transcoded with. You can change the settings for the Look source in the transcoding tab in the right bar (see figure 5):

- **As set in Library (“As in Library”):** Applies the look that is currently selected for the specific clip in the Library. In case you need to transcode the clips with a custom look applied, this is the right option.
- **No Look (“None”):** Transcodes the clips with no look applied (as they were recorded, with no color processing in the camera acquisition color space).
- **Look from File (“From File”):** Reads the clip’s metadata and applies the color processing described in the embedded looks. In case there is no look embedded, Silverstack applies the default Log to Rec.709 conversion for the specific format.

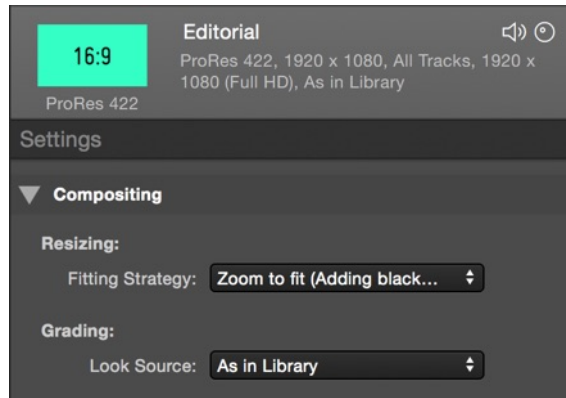


figure 5: Choose the look settings for transcoding

¹ The selected formats with Look Metadata reading are Alexa ProRes, ARRIRAW, Amira ProRes, RED Raw and Panasonic Varicam 35. If no look metadata is embedded in the file, a default log-to-video conversion is chosen for the specific format (e.g. XAVC with S-Log).

Visual Control Functionalities in the Playback Mode

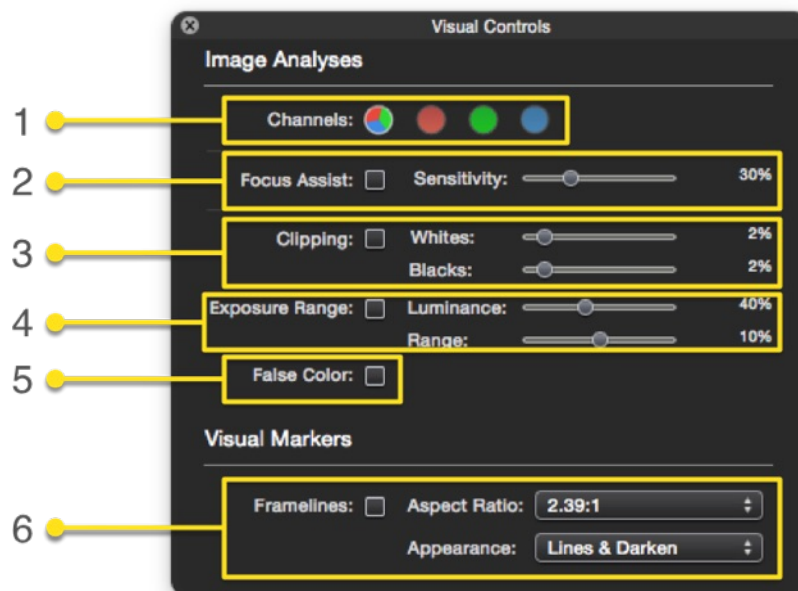


figure 1: visual controls in Silverstack

With the functionalities provided within the “Visual Controls” panel you can check the colors and quality of your video clip:

1. **Channels:** By selecting one of the three RGB-channels Silverstack shows the distribution of this color in the image of the video clip.
2. **Focus Assist:** The focus assist helps you to detect if your image is in focus by detecting the edges of the image. You can set the sensitivity.
3. **Clipping:** With the clipping functionality you can check which areas of your image clip are either in the whites or blacks.
4. **Exposure Range:** This option allows you to detect different ranged areas of luminance in your image.
5. **False Color:** You can use this option and active false color. The represented values can be found in figure 2
6. **Framelines:** add frame lines to visualize the clips with a different aspect ratio. More information in the article [Frame Lines in the Playback View](#).

Color	Level	Description
red	99 – 100%	White clipping
yellow	97 – 99%	Just below white clipping/white shoulder
pink	52 – 56%	One stop over medium gray (Caucasian skin)
green	38 – 42%	18% neutral gray
blue	2.5 – 4.0%	Just above black clipping/black slope
purple	0 – 2.5%	Black clipping

Figure 2 “Values for clipping”

Note: You can change the unit for clipping and range in the [application preferences](#).

Video Preview playback control

The Silverstack playback controls allow you to control the video preview with standard video controls (figure 3 #1) and the possibility to set IN- and OUT-points (#2) as well as to loop the video and zoom into it (#3). To show the original Log gamma instead to the Rec.709 conversion, select the #4 check box.

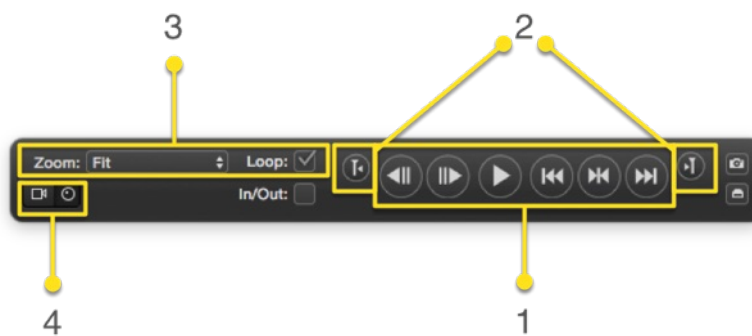


figure 3: standard playback controls

For video files in the Red format and ARRIRAW sequences you have additional functionality to change the playback resolution (figure 4 #1): You can select various resolutions, choosing between full, 1/2, 1/4 and 1/8.

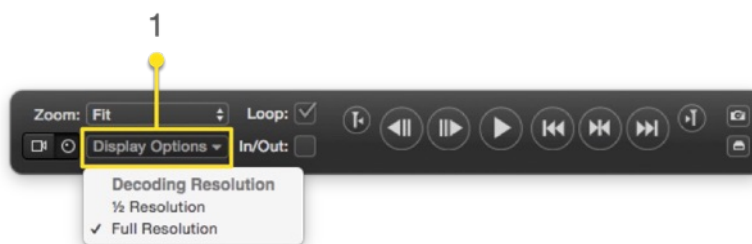


figure 4: playback controls for any video with multiple resolutions available

100% Zoom for Retina Displays

Silverstack is optimized to work with the “Default” settings for Apple retina displays which you can find under “System Preferences > Displays”. Choosing this setting, Silverstack will **map 1 media pixel to 1 physical pixel** of the display.

This setting is best suited for visual image analysis such as focus or sharpness.

Professional Video Scopes for Silverstack with ScopeBox

You can use ScopeBox by Divergent Media for software-based waveform and video scopes for Silverstack’s player. ScopeBox offers a variety of waveform monitors and video scopes that enable image analysis and color control of the clip assets of your Silverstack library.

You can receive information about how to download, setup and license ScopeBox software on [Divergent Media’s Website](#). To use the integration of Silverstack in ScopeBox you have to run version 3.5 or later of the ScopeBox

application.

Connecting Silverstack and ScopeBox via ScopeLink

Silverstack sends the current image of the player directly to the ScopeBox application by DivergentMedia's ScopeLink technology. To enable ScopeLink open the ScopeBox application.

Click in the upper left area of the ScopeBox main window to set a new source. Choose **“Add ScopeLink Source > Pomfort Silverstack”** from the context menu:

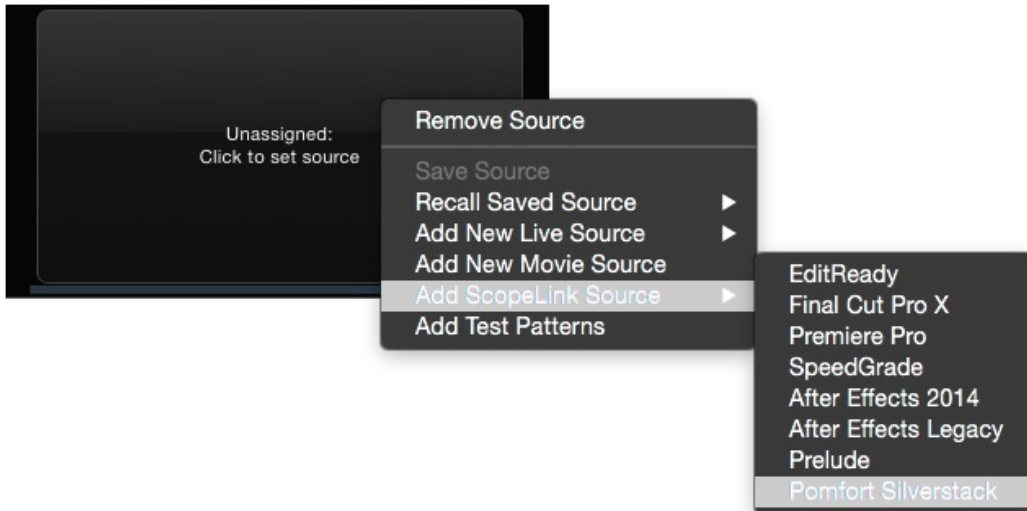


Figure 1: Add Pomfort's Silverstack as a source.

After that the source should show a pending image:

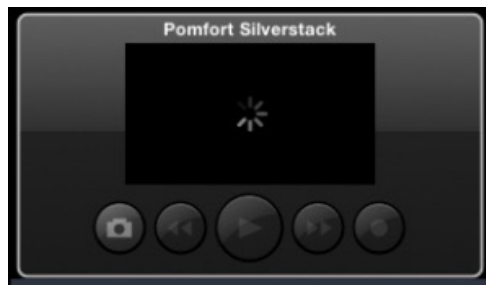


Figure 2: ScopeBox waiting for the Silverstack connection.

Now open Silverstack. Open a clip in the media player.

Make sure that in the preferences of Silverstack under **“External Video”** the checkbox **“Connect to ScopeBox”** is enabled. You reach the preferences from the Main Menu by choosing **“Silverstack > Preferences...”**:

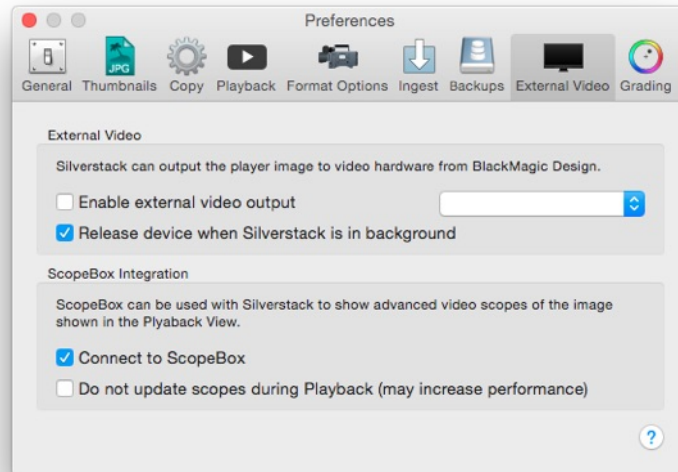


Figure 4: ScopeBox Preference in the External Video tab

There you can also choose if you want to update the frames in ScopeBox during playback in Silverstack. Checking this box may increase performance, but Silverstack only updates Scopebox when being paused.

When you switch to ScopeBox you should then see the default view including an image preview of the image showing in Silverstack:

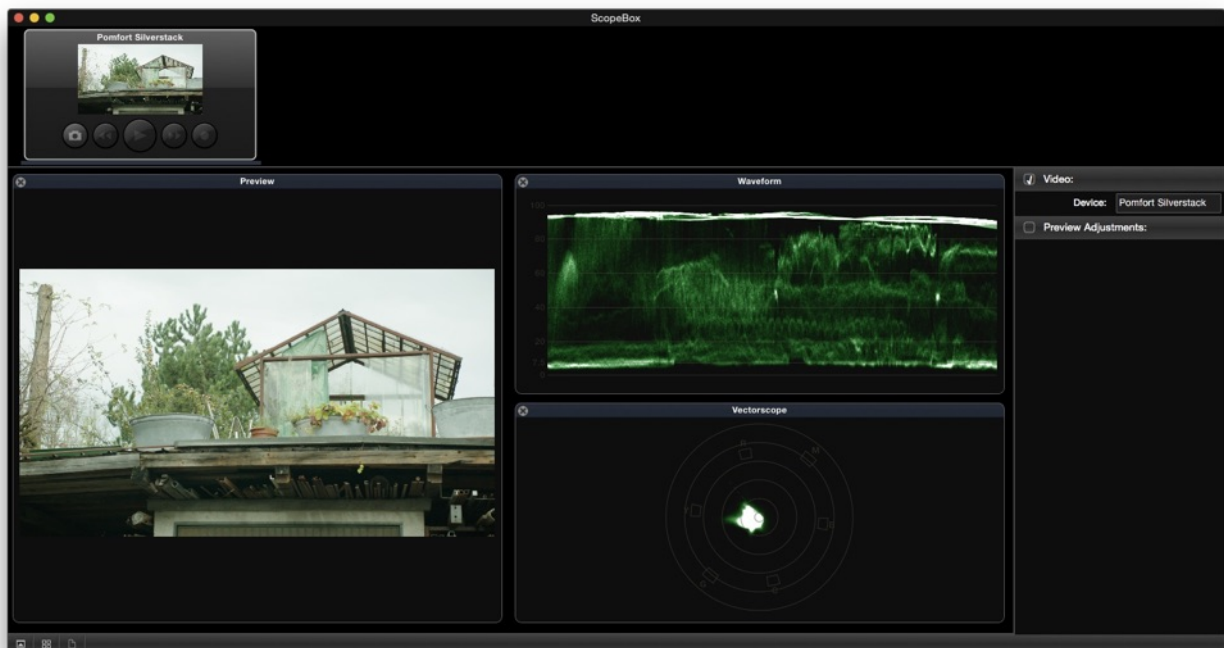


Figure 3: The ScopeBox UI with a preview of the Silverstack clip and scopes.

Because of Silverstack's internal RGB processing, signals from of YCbCr based clips sent to ScopeBox via ScopeLink don't contain code values outside the legal range (even if they might be present in the source files).

Learn how to use ScopeBox with this tutorial (from Divergent Media):

Find more tutorial videos from Divergent Media about ScopeBox [here](#).

Tags: waveform, vectorscope, histogram, rgb parade

Frame Lines in the Playback View

It is usual to record footage with an aspect ratio different to the one used in the final product, which makes the quality checking of the clips a bit more challenging. For this reason, Silverstack offers the possibility to overlay frame lines over the clips in the playback window, as well as for the SDI output.

The frame lines can be activated through the «Visual Controls» menu. You can open the visual controls from the **Main Menu**. Choose **“Playback>Show Visual Controls”**:

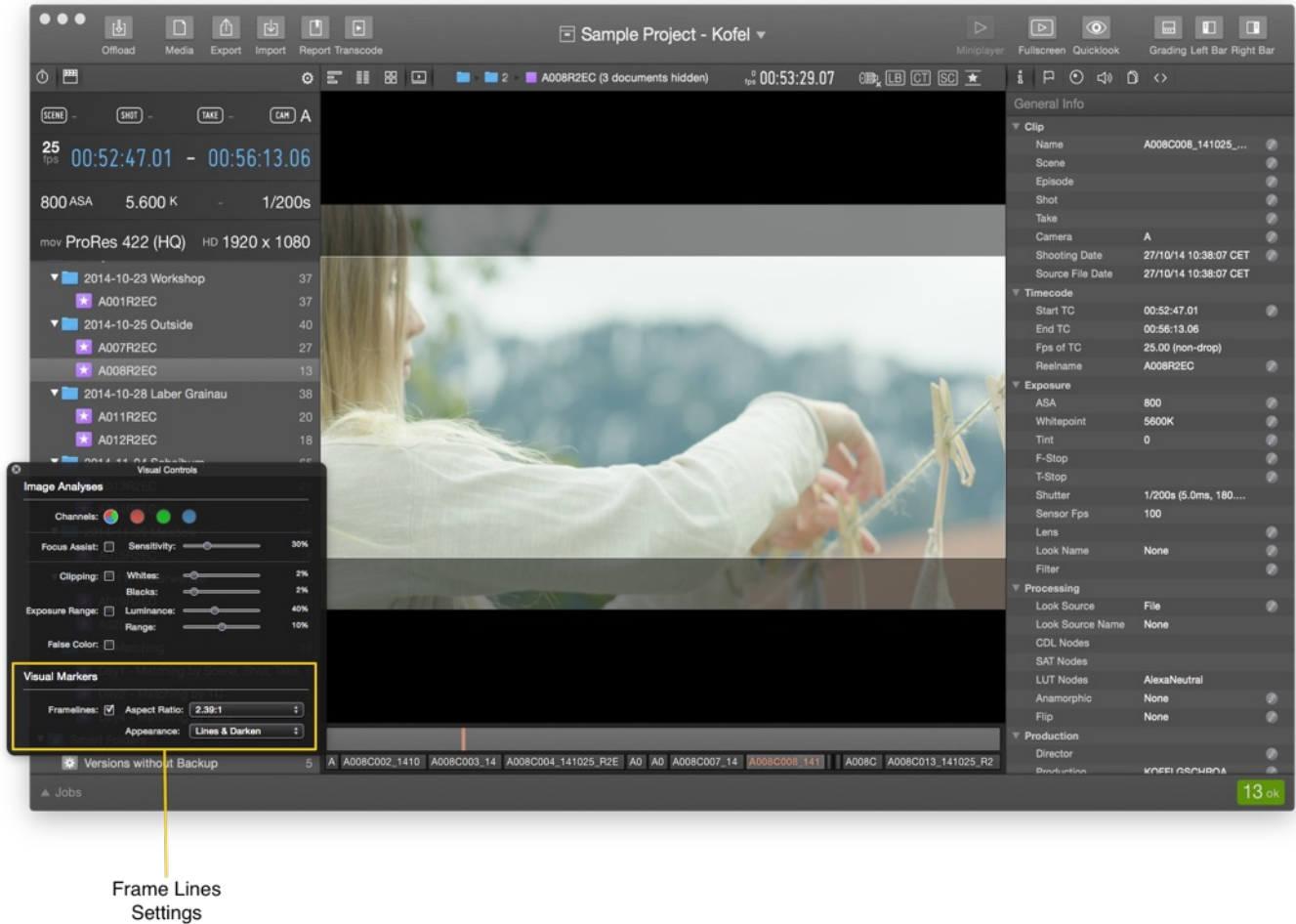


figure 1: frame lines settings

Once in the Visual Controls window you can activate the frame lines with the checkbox. You can then select the aspect ratio and appearance of the frame lines:



figure 2: aspect ration an appearance settings

Frames lines are available for normal playback and SDI output. For more information about how to setup the SDI output in Silverstack, please refer to the article [HD-SDI output in Silverstack](#).

Image transformation

The ability to de-squeeze footage recorded with anamorphic lenses and image flipping is available in Silverstack. This features are helpful to check the quality of the clips without distortions. Image transformations will be also

applied if you decide to [transcode the clips](#).

Anamorphic de-squeezing



figure 1: Anamorphic transformation

The de-squeezing option can be applied to a single or multiple clips in the Clip Info tab (⌘1) from the right panel. Scroll down to Processing info and an Anamorphic option will be shown. Click on the edit button and a panel will pop up as in figure 2. The available settings are 1.3x and 2.0x distortion, select the one that suites your needs and click on apply. The image will appear without distortions now.

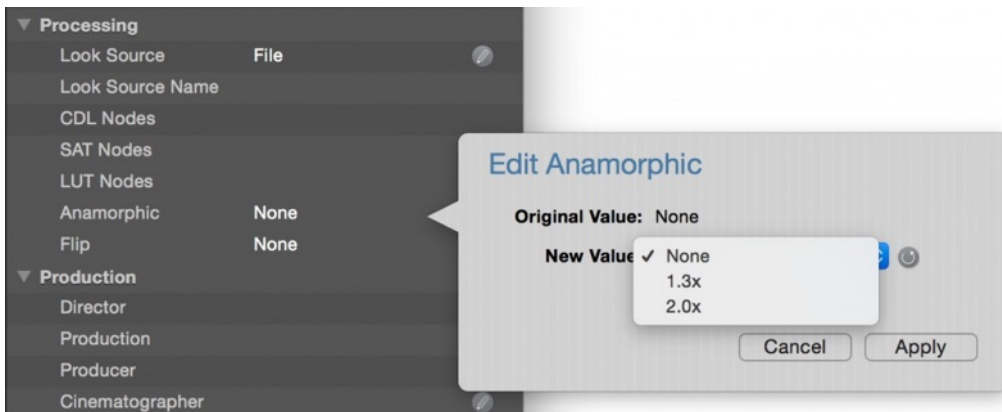


figure 2: de-squeeze settings

Image flipping

Some production workflows demand the use of mirrors, such as 3D productions. When the moment of quality check arrives, Silverstack offers the ability to flip the image vertically, horizontally or both at the same time as shown in figure 3. This feature can also be applied to multiple clips at a time.

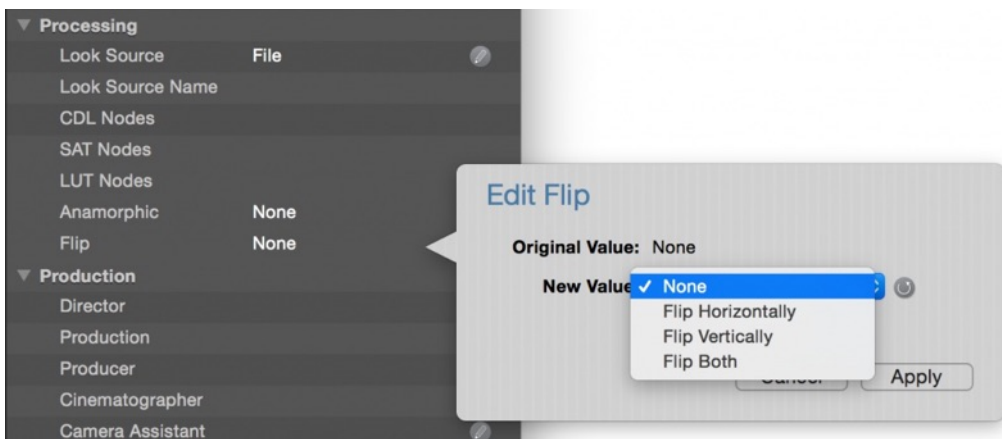


figure 3: image flipping settings

Tags: desqueeze, anamorph, anamorphic

Still image export

Silverstack lets you export still images from single frames of clips. Simply move the playhead to the desired frame

and select “Clip > Create Still Image” from the main menu as shown in figure 1:

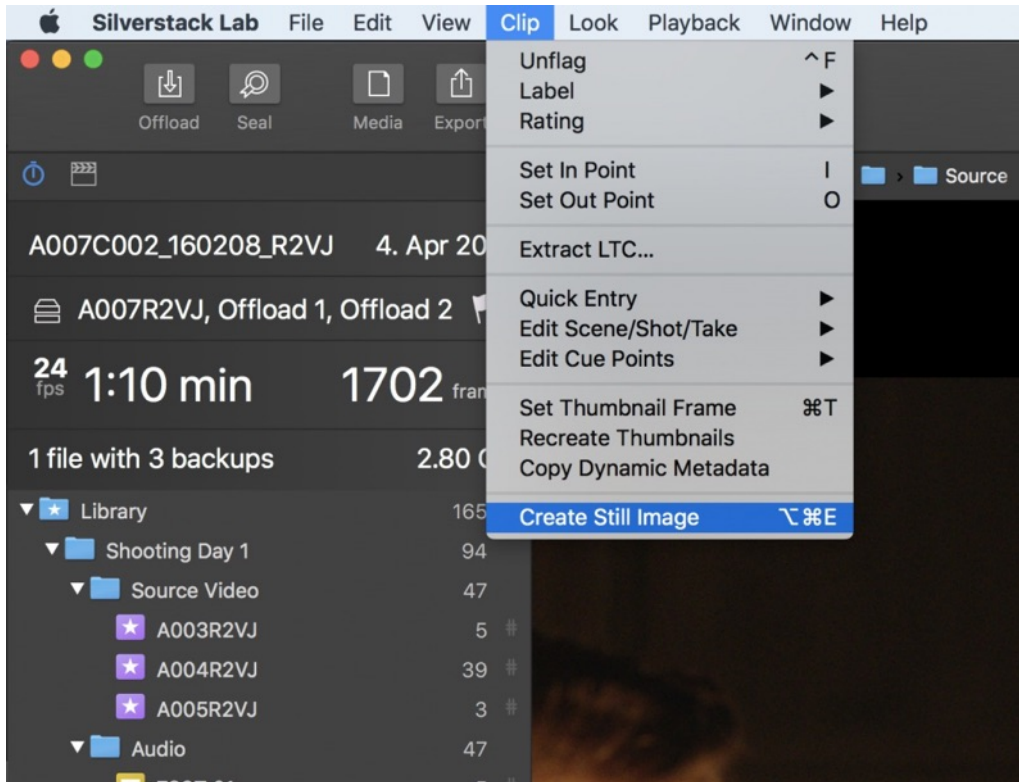


figure 1: still image export

There are different settings and formats available for this feature in the [Preferences menu](#):

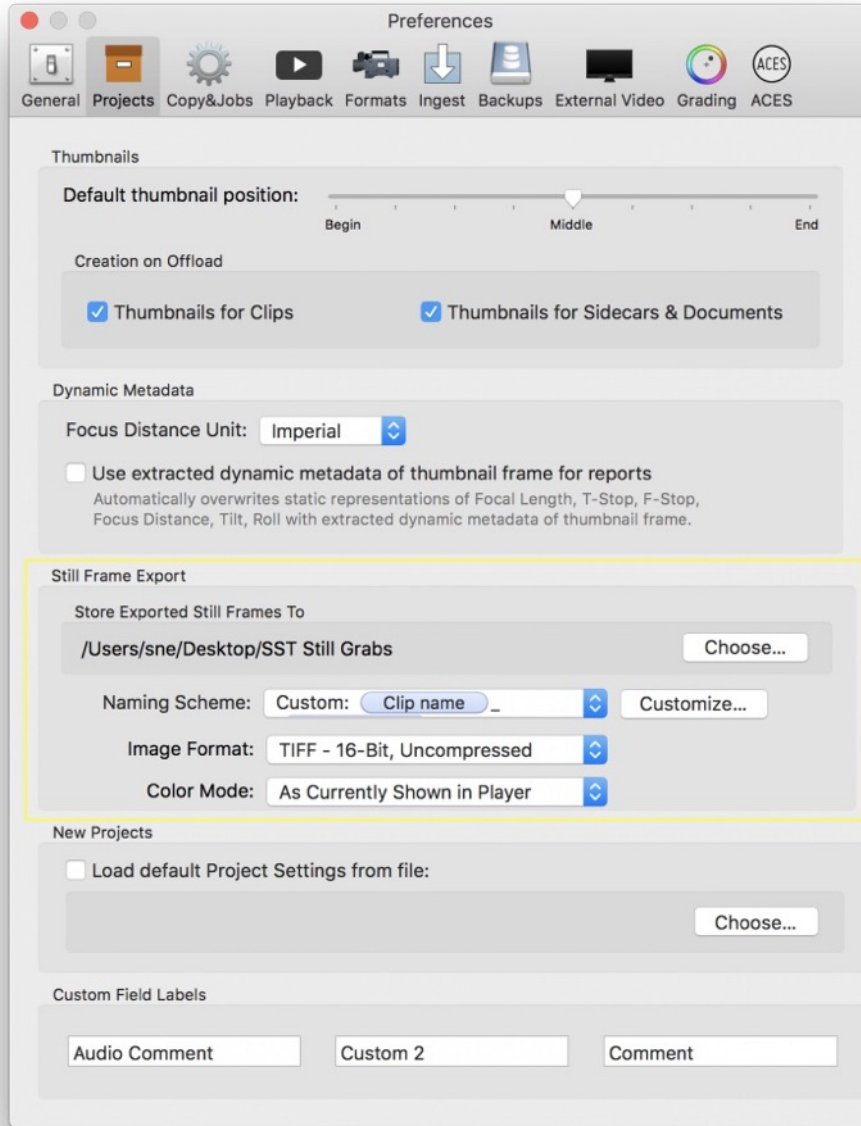


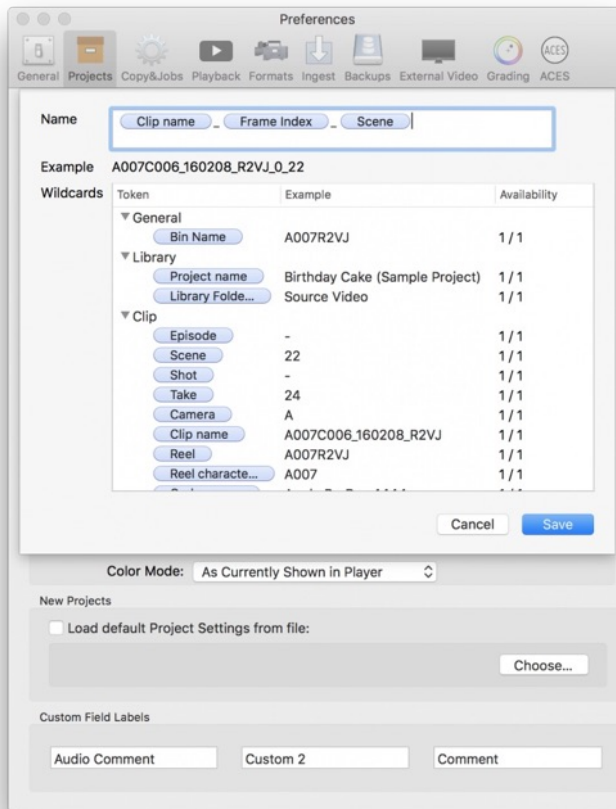
figure 2: still frame preferences

The following options and actions are available:

- **Directory to Store Stills:** Choose the directory to store your still grabs on your system by clicking the “Choose...” button.
- **Naming Scheme:** With the naming scheme you can define the naming for the exported still images.



- There are multiple preset options available:
- In addition the “Custom:” option allows to build a file name based on the metadata of the clip the still is exported from. By clicking “Customize...” you can open the metadata wildcards panel and choose from the available wildcards to build a custom file name scheme:



- **Image Format:** The available image formats for exporting frames are:
 - JPEG – 8-Bit, 90% Quality
 - TIFF – 8-Bit, Uncompressed
 - TIFF – 16-Bit, Uncompressed
- **Color Mode:** The different color modes are:
 - As currently shown in player
 - Original color
 - Both: Exports two images with both of the above settings – one as shown in player and the other with the original color.

Exporting Multiple Still Images and Contextual Still Frame Selection

Silverstack can export multiple still images at once when either selecting multiple clips in the table or collection view or in the timeline of the player. The still frame position that is used for the export depends on the context in the software.

Following a “what you see is what you get” approach the selected frame for the still image export follows the context in the software:

- **Player and Timeline: Current frame** of each selected clip (indicated by the timeline ruler).
- **Table & Collection View: Thumbnail image** that is displayed in the table and collection view

You can set the position for the thumbnail image creation in the preferences and can recreate still images based on the same position. Learn more about this in the article [Choosing Custom Thumbnail Images](#).

Volume playback priority

High data rate video playback is very hardware demanding. As Silverstack offers a multiple destination backup option, your valuable clips will be stored in different volumes. Different types of volumes may have variant interface connections. To increase playback performance in Silverstack it is possible to select the playback priority.

To accomplish that you will have to go to the *Volumes* tab, select the volume you want to set its playback priority

and adjust it on the right panel (figure 1 #1).

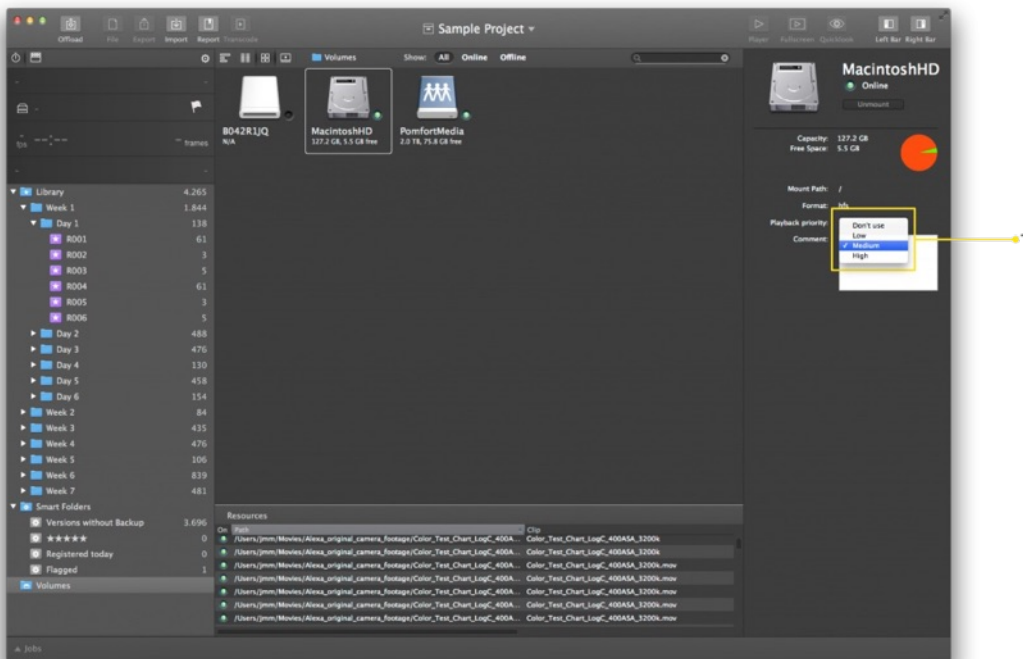


figure 1: playback priority

If your main playback volume is offline, Silverstack will automatically select another volume in the order of your playback priority . **If no priority is selected, Silverstack will randomly select the playback source volume.**

Quick Look Features

In Silverstack you are able to preview all of your Assets that are natively supported by the Quick Look feature of MacOSX and offloaded/registered to your library. This is especially useful if you would like to review those Assets which don't have advanced camera support. Assets like any PDF document or image (i.e. a screenplay, storyboard, etc.)

There are also some situations where it can be handy to preview advanced camera support Assets. We will briefly review some different scenarios that might be useful on the film set.

General

Quick Look lets you browse files — photos, Pages documents, Keynote presentations, QuickTime movies, Microsoft Word and Excel files — without having to launch an application or leave Silverstack.

Assets that are fully supported in Silverstack are playable via the regular playback function in the Playback view, in addition to the Quick Look feature.

You can access the Quick Look feature from by going to the Main Menu: **“Playback > Preview in QuickLook”**. To improve your workflow you can also use the keyboard shortcut command **“Alt + Cmd + L”**.

Case 1: Review supported Assets

The Quick Look feature helps you to review an Asset without changing into the Playback view. This could be especially useful when you are reviewing shots in a camera roll with the director but still want to give him a glimpse overview (via thumbnails in the collection view) of the camera roll of the entire shooting today.

Or if you would like to review the take with recorded scratch sound from the camera. If the recorded scene includes audio it will automatically playback with the Quick Look feature.

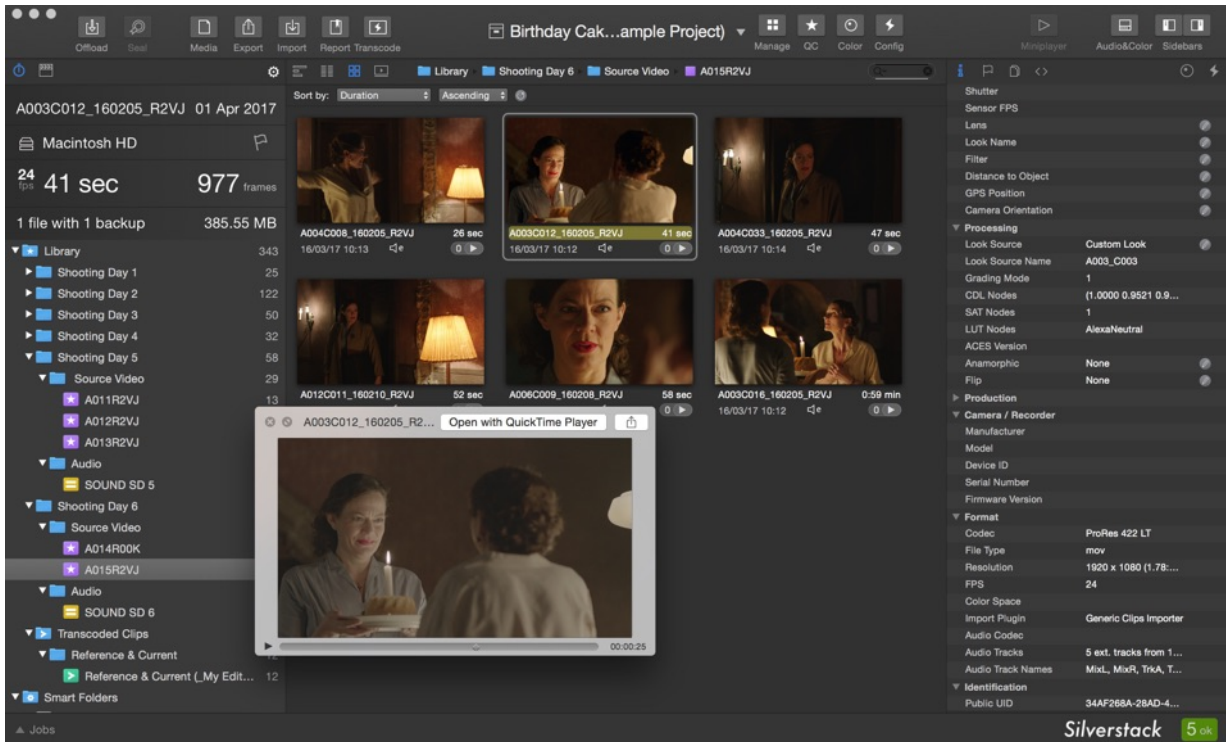


Figure 3: "Collection View with Quick Look"

Case 2: Review Assets without extended camera support

With the use of 3rd party software it is possible to preview footage and Assets that are not natively supported by Silverstack neither with MacOSX. These can be for example formats like XDCAM HD with help of tool [mxf4Mac](#) [Import](#) plugin and Final Cut Pro.

Also some other 3rd plugins are out there. Please review [this article](#) to have a list of possible 3rd plugins.

Case 3: Review Storyboards, Images, Sounds and PDFs

You can also give the director or the camera man the ability to review storyboards (like in figure 4.) or listen to some audio files that you offloaded from the sound department.



Figure 3: "Quick Look Storyboard"

Case 4: Review multiple Assets (non consecutive)

With the Quick Look option you can also quickly watch a selection of takes from your camera roll. This is useful when you have many takes in one roll. You are still able to stay within your current view like in figure 3 but you are able to watch multiple clips and discuss those with the script continuity, the director or camera man and simple change clips with back and forward arrow within the Quick Look window.

To make a non consecutively selection in the Collection-View (like in figure 3) you simple need to press the command key. If you like to make consecutive selection you simple press the Shift key. These simple command also applies for the Table-View.

Player Grid View for Multi Clip Selection

Silverstack XT and Silverstack Lab come with a Grid View mode of the playback view to **show multiple clips side-by-side in the Silverstack Player** and on the **HD-SDI output**:

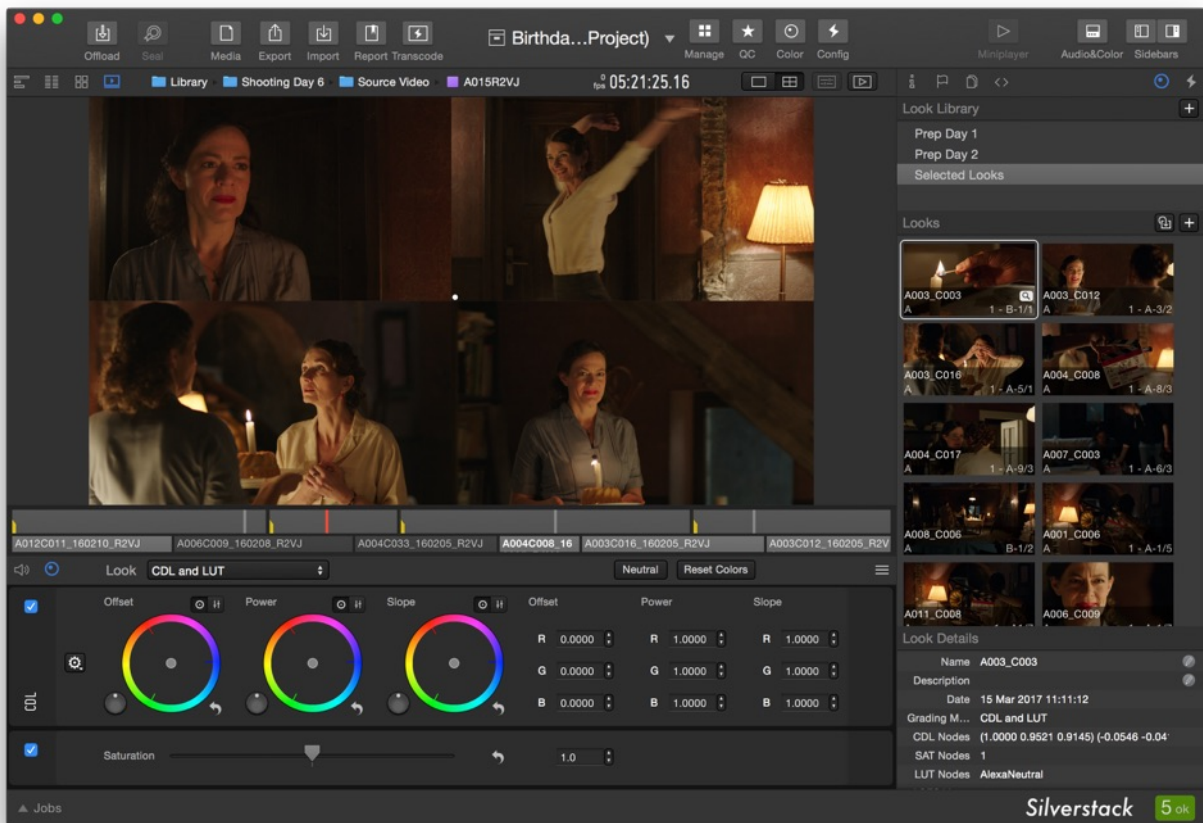


Fig. 1: The Grid View of the player in Silverstack Lab

You can access the Grid View from the single view and grid view controls in the header bar of the player:

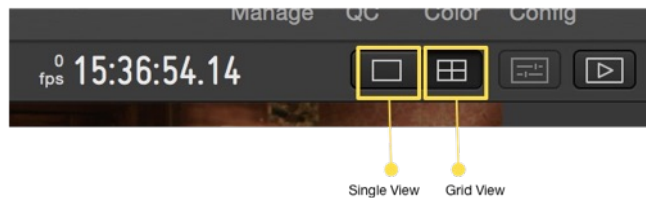


Fig. 2: Accessing the Grid View

Alternatively you can access it from the “Playback” menu of the Main Menu bar:

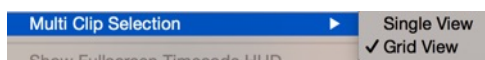


Fig. 3: Multi clip selection entry in the “Playback” menu

After accessing the Grid View you have to select multiple clips in the timeline to show them in the grid. This can be



done with the usual macOS modifier keys for multiple and continuous selection. Hold shift while clicking to select a range of clips and cmd to select and deselect single clips.

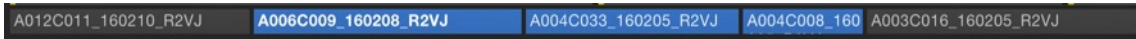


Fig. 4: The timeline with three selected clips

The timeline in fig. 4 shows a selection of three clips. The first clip (A006C009_160208_R2VJ) in bold white font is the primary current clip. Editing metadata and adjusting the grade will affect the current clip only. It is also marked in the image with a little white dot in the lower left corner.

The current clip inside of a selection can be changed by **clicking on another clip of the selection or by clicking on the image in the player**. To deselect clips from the selection hold the cmd key while clicking. Click a non selected clip to dissolve the selection.

Lightweight Copy of Looks

The Grid View can be useful to reference and compare grades. Therefore it can be handy to easily copy grades. By using the Look library in the right bar looks can be easily created and applied to one or multiple clips. All necessary functionality can be found in the “Look” menu of the Silverstack Main Menu:

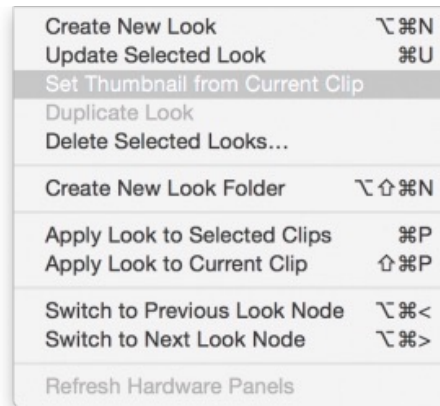


Fig. 5: The “Look” menu with functionality to create and apply looks

Learn more about the Silverstack Look Library in the article [The Silverstack Look Library](#).

Grid View on

Grid View Functionality per Silverstack Product Version

The Grid View functionality differs for different Silverstack versions:

- **Silverstack:** No Grid View available.
- **Silverstack XT:** Grid View limited to 2 clips.
- **Silverstack Lab:** Grid View limited to 12 clips (due to performance reasons).

Creating Reports

Creating Reports

A crucial Silverstack feature is the “**Report**” functionality. It offers you the opportunity to create a summary of all the clips contained by the selected project item.

Therefore choose a project, folder or bin and click on the “Report” wizard in the Silverstack toolbar (figure 1).

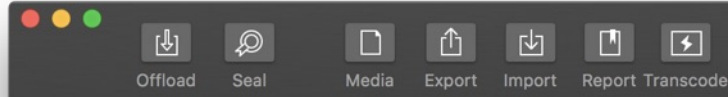


figure 1: The toolbar

Different Report Types

Silverstack offers you the possibility to export different types of reports. Each one of them is designed for the different professionals involved in the production process. Additionally you can customize the kind of information shown in the reports (more information in the article [Customizing Clip Reports](#)).

The different types of reports are:

- Shooting Day Report
- Clips Report
- Thumbnail Report
- Contact Print Report
- Volume report.

Shooting Day Report

The *Shooting Day Report* (figure 2) gives you production information about the clips you have offloaded. You can select between the statistics, labels, backups, ratings formats and reels to show up in the report (figure 3). Enter production information like Director, Cinematographer and DIT in the *production* field in the tab *project overview*, and show it by checking the according checkbox “**Show Production Info**” at the bottom of the reports dialog.

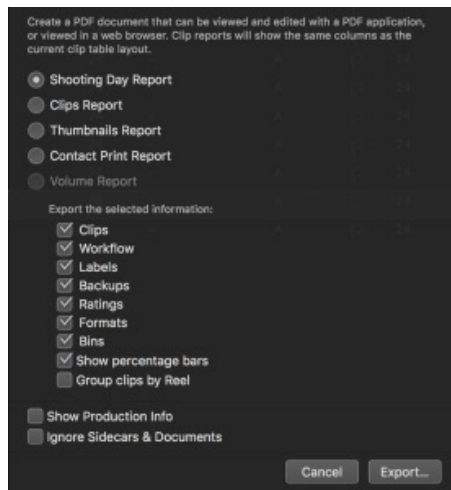


fig. 2: Shooting day report options

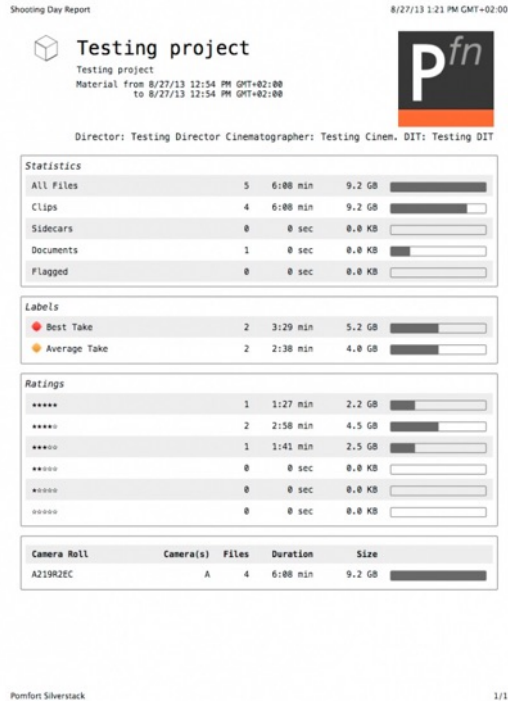


figure 3: Example of a Shooting Day Report – click to get a closer look

Clips Report

Clips Report (figure 6) is the most customizable type of report. It exports the clip’s metadata you choose from the column layouts. You can also use a preset column layout with important information for different professionals involved in the production process as shown in figure 4 (see dropdown “**Clip Layout Information**”). Column layouts can be managed and saved from the toolbar of the table view (see fig. 5). Please see the article [Customizing Clip Report](#) for more information.



fig. 4: Clips Report customization

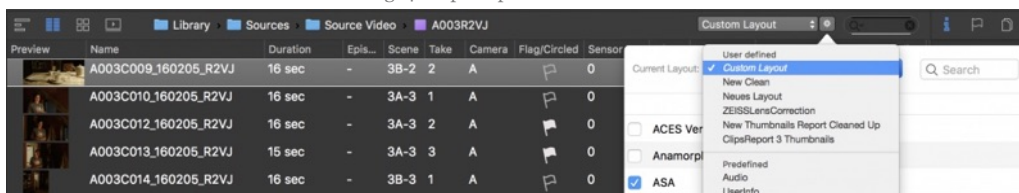


figure 5: Clips Report customization



Figure 6: example of a Clips Report – click to get a closer look

Thumbnails Report

Generates a report similar to the Clips Report but with bigger thumbnails to help with the identification of the clips. The information displayed in the report behaves in the same way as in the Clips Report.

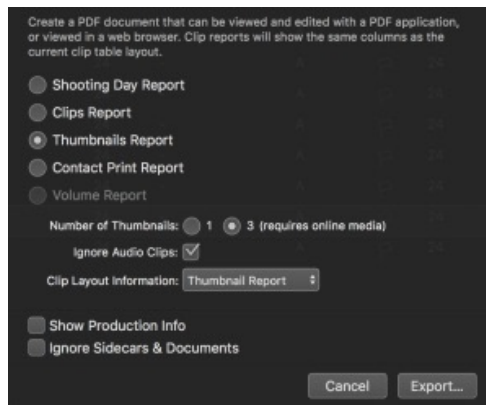


figure 7: Thumbnail Report customization

Three Thumbnails per Clip

Silverstack by default creates one thumbnail for each ingested clip that is saved in the library. This thumbnail is be used for referencing clips in the Clips, Thumbnails and Contact Print Reports.

Since Silverstack 6.3 **Clips and Thumbnails Reports** can now be created including **three thumbnails per clip**. This enables an advanced reference for clips in reporting.

How To

When selecting the Clips or Thumbnails Report in the report wizard you can choose “**3 (requires online media)**” as “**Number of Thumbnails:**”:

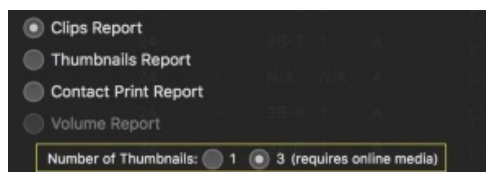


Fig. 8: Select the number of thumbnails to include in the report

During the export process Silverstack creates two thumbnails for the first and the last frame of the clip in addition to the custom thumbnail. In contrast to a single thumbnail report that accesses the custom thumbnail, the **three thumbnails report requires online media** for the ad hoc creation of the additional thumbnails.

Position of Thumbnails

The position for the creation of the additional thumbnails can be influenced by setting in and out points for a clip. The position of the custom thumbnail can be set in the preferences. Also, thumbnail creation on ingest can also be deactivated in the preferences.

Additional Thumbnails Failed to Create

If the thumbnail creation process fails it can have different reasons. One common, simple reason is offline media. If the report fails the following alert will be shown:

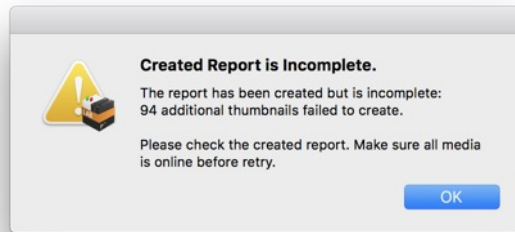


Fig. 9: The alert when something went wrong with the creation of additional thumbnails.

Please be aware that if no custom thumbnails have been created the custom thumbnail will show a placeholder icon in the reports. **Always take a look at your report to ensure its content.**

Report Examples with Three Thumbnails

Clip Report 15.01.18 13:44 GMT+1

A006R2VJ
Birthday Cake (Sample Project)
 Material from 4. Apr 2017, 14:00:23 to 4. Apr 2017, 14:00:23

HFF

Production Info


Director: Uisenna Barchu	Producer: Tom Fährmann
Cinematographer: (Various)	Location: Studio 1
GIT: John Doe	

Report Summary

	Clips	Duration	Size
Source Video Clips	16	11:17 min	27.742 GB
Audio Clips	0		
Sidecar Files	2		54.344 KB
Documents	0		
Transcoded Clips	0		
All Files	18		27.742 GB

First Frame	Custom Frame	Last Frame	Name	Duration	Episode	Scene	Take	Camera	Flag/Circled	Sensor Fps	ASA
			A006R01_160200_R2VJ	57 sec	7	2	1	A	P	24	1280
			A006R02_160200_R2VJ	39 sec	7	2	2	A	P	24	1280
			A006R04_160200_R2VJ	46 sec	7	3	1	A	P	24	1280

Fig. 10: Example of a Clips report with three thumbnails

 **A006R2VJ**

Birthday Cake (Sample Project)
Material from 4. Apr 2017, 14:00:23
to 4. Apr 2017, 14:00:23

HFF

Production Info	
Director: Uisenma Borchu	Producer: Tom Fährmann
Cinematographer: [Various]	Location: Studio 1
DIT: John Doe	

Report Summary			
	Clips	Duration	Size
Source Video Clips	16	11:17 min	27.742 GB
Audio Clips	0		
Sidecar Files	2		54.344 KB
Documents	0		
Transcoded Clips	0		
All Files	18		27.742 GB





Name: A006C001_160208_R2VJ
Duration: 57 sec
Episode: 7
Scene: 2
Shot: -
Take: 1
Camera: A
Flag/Circled:
Sensor Fps: 24
ASA: 1280
Shutter Degree: 172.8° @ 24fps
Whitepoint: 3200
Look Source: File
Look Source Name: None
Codec: Apple ProRes 4444
Shooting/Recording Date: 8. Feb 2016, 14:02:25
Location: Studio 1
Production: HFF
Cinematographer: [Various]
Director: Uisenma Borchu

Fig. 11: Example of a Thumbnails report with three thumbnails

Contact Print Report

This option creates a report displaying only the thumbnails of the library element selected.

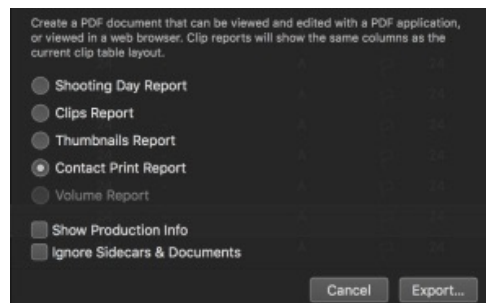


figure 12: Contact Prints Report customization

Volume Report

Volume Report (figure 14) summarizes the information regarding the source and current location of the different copies of the clips registered in Silverstack. In order to make this option available, the «Volumes» folder must be selected from the Library tab. This kind of report can also contain XX Hash, MD5 hash and SHA1 hash information to confirm data integrity.

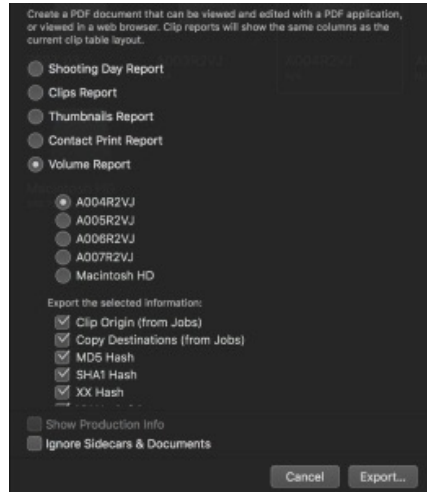


figure 13 : Volumes Report customization

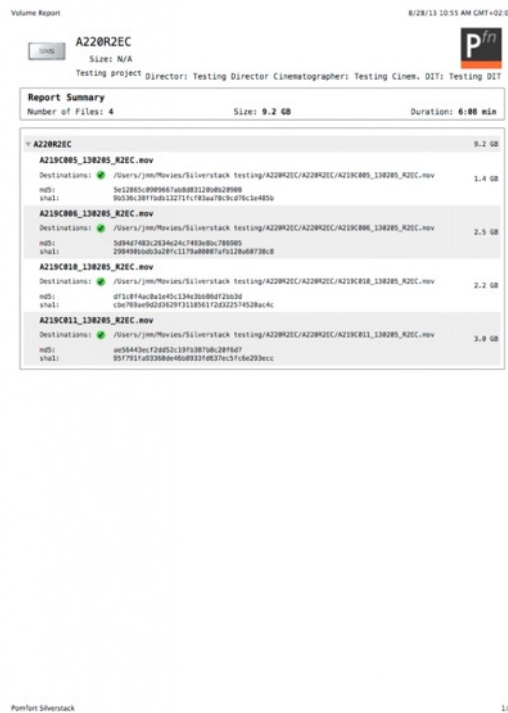


Figure 14: example Volume Report

Report Naming Scheme

When saving reports the naming scheme options help to select a meaningful naming based on your project context.

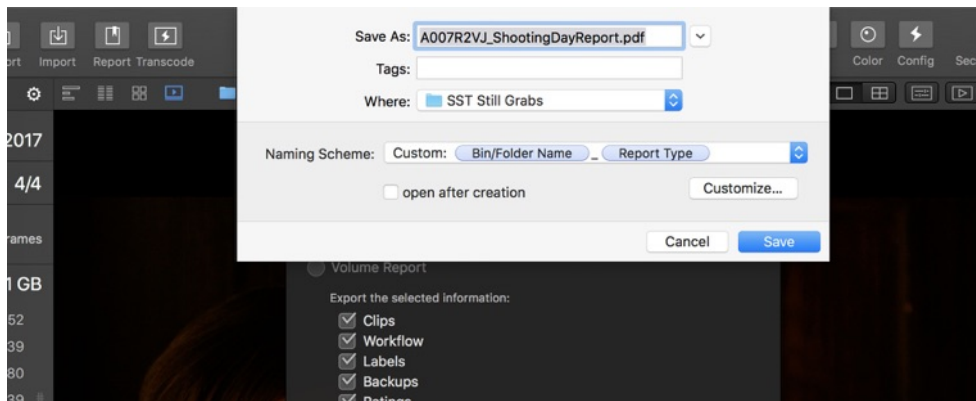


Fig.15: Saving a report

There are preset options available for the naming of the reports:



fig. 16: Report naming scheme preset options

In addition to the presets the “Custom:” option allows to build a file name based on available metadata. By clicking “Customize...” you can open the metadata wildcards panel and choose from the available wildcards to build a custom file naming scheme:

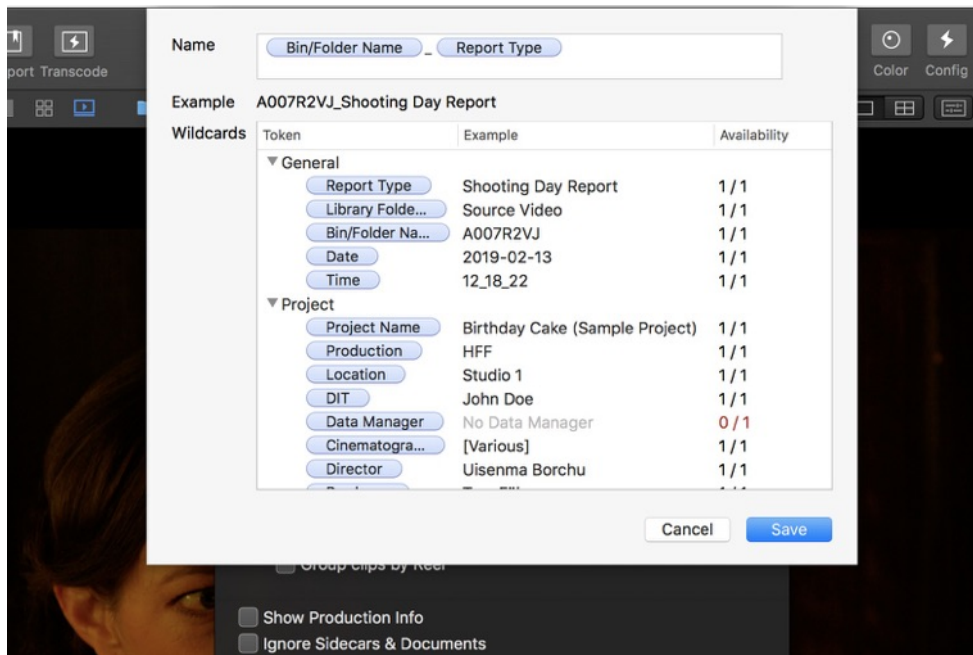


Fig. 17: Available wildcards for naming the report

Report Formats

Silverstack can save this information either in a PDF-, CSV-, XML- or HTML-file. With the formats CSV and XML you can create files that you can import in spreadsheet applications like Excel or Numbers. Additionally you can write your own scripts to process the data.

“Print Report” Functionality

Additionally to the “Report” functionality, Silverstack offers you the opportunity to directly print reports for each level of your [project tree](#).

To print a report of all clips contained by one folder, select this folder, right-click on it and select “*Print Report...*” from the drop-down menu.

The described steps work for:

- Projects
- Folders
- Bins
- Smart folders
- “Volumes” items

Customising Clip Reports

Silverstack includes a comprehensive reporting center. We created it to give you more flexibility and possibilities in your daily workflow.

Overview

Create customized reports with the new Silverstack – documenting your entire offload and backup tasks. Silverstack consolidates it’s flexible reporting capabilities in a powerful reporting center(see figure 1), providing customized reports for production and post-production. Silverstack provides shooting day reports with thumbnails and metadata as well as comprehensive, statistical summaries in well-arranged and beautiful PDF document. Reports include all the necessary metadata to document camera media traveling to workflow steps down the road.

Silverstack can customize clip reports by right clicking on the table view columns like in figure 2. The same customized table view will show up in your clip reports. Simply select your required data and proceed to the report center to create a Clip Report. You can also customize your thumbnails to get a better preview in your reports. For more info refer to the article [Choosing custom thumbnails images](#).

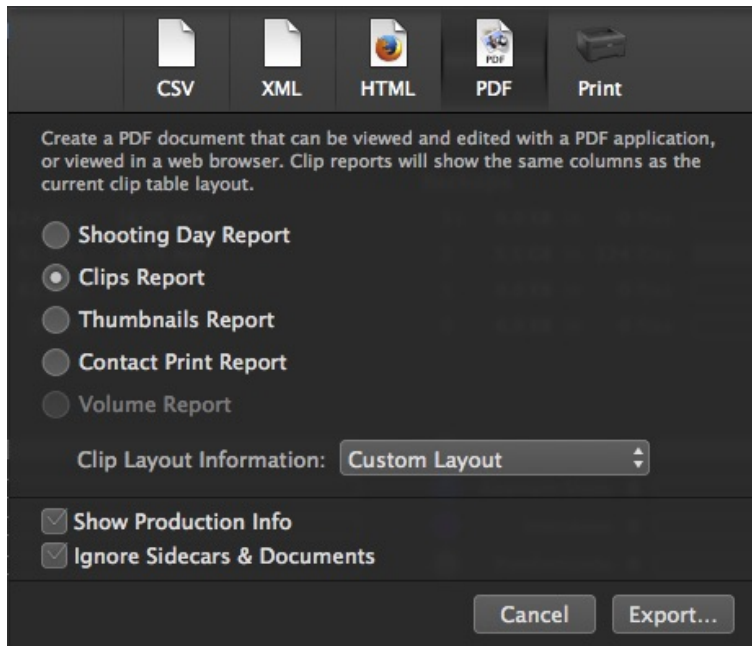


figure 1: “Reporting Center”

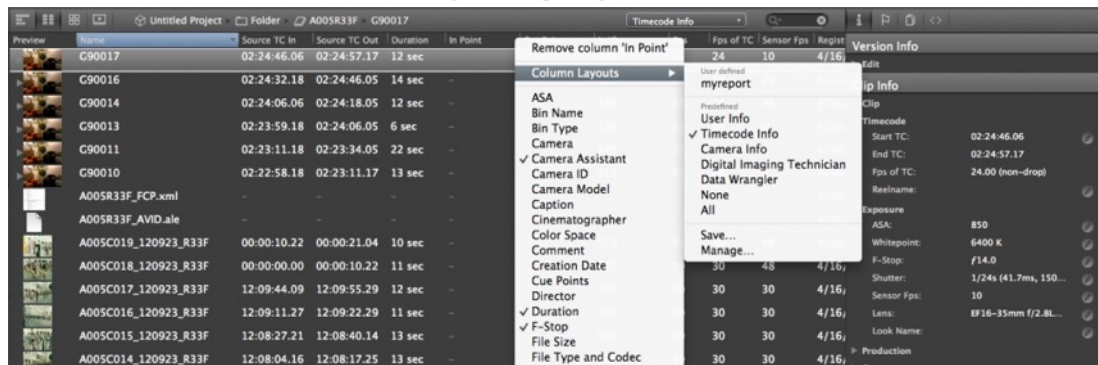


figure 2: “Customizing the table view for a Clip Report”

Additionally you can save your customized table view preset and manage it. We also offer presets created in collaboration with experienced DITs from all over the world. We are always pleased to hear your feedback and request for improved reporting. Please contact therefore support@pomfort.com

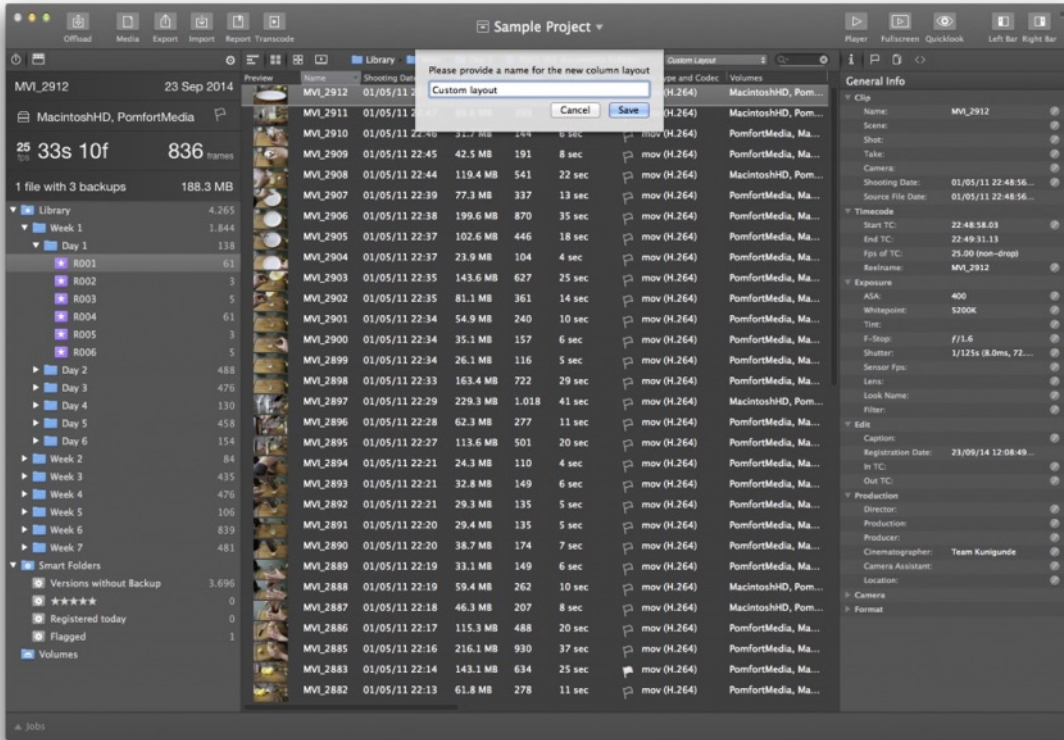


figure 3: "Saving a customized table view"

Metadata Handling

Metadata Handling: View, Organize, Add, and Filter Clips

The clip library is the core of Silverstack. It easily enables you to inspect all the metadata of your clips and let you organize all your clips by these metadata. During [offload](#) and [backup](#) all clips and files plus their file copies are registered in the Silverstack's clip library. Over time using Silverstack in your production you always have access to these clip metadata which refer to your project based media files. During all organizing and editing tasks Silverstack never modifies the data of the original and their backups but saves all changes separately.

We will give you a short overview about how to modify and add metadata in the clip library:

Enter Metadata

Metadata (metacontent) is defined as data providing information about one or more aspects of your clips, for example such as:

- Timecode
- Resolution
- Sensor
- Frame Rate
- Take, Shot, Scene
- Reel name

A lot of clip metadata like resolution, reelname, or exposure is already added to your clips by the camera and is therefore not editable. Non-technical metadata like scene/shot/take information however can be edited but is not stored within the original video files. Instead Silverstack saves this editable information and links it to the corresponding clip file. You can add a lot of this supplementary metadata very easily in Silverstack.

You can edit metadata in the Silverstack [Information panel](#), in the “General” (figure 1 #1) and “User” tab (figure 1 #2). Information edited in the “General” tab can be applied to several selected clips. For doing so, click on the small pen symbol (figure 1 #3) right to the metadata field. Make your desired changes and enter the information by clicking “Apply”.

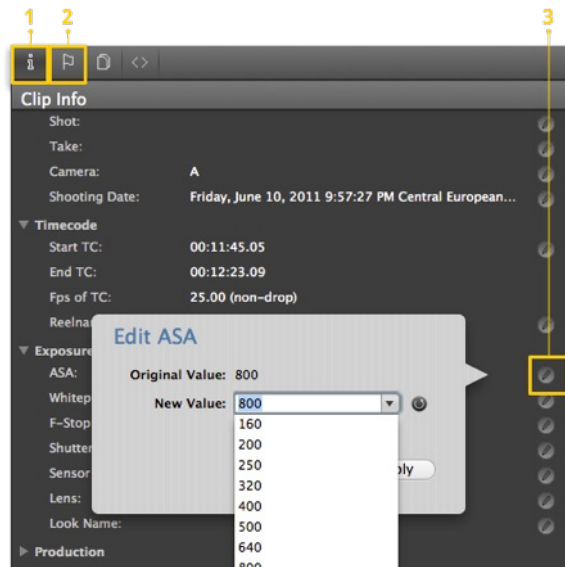


figure 1: Information panel

Metadata like comments, ratings, flaggings etc. can be edited in the “User” partition (figure 2) and affect exclusively the currently active clip.

- Flag: By flagging a clip (figure 2 #1) you brand it with a flag symbol which can be interpreted individually.
- Rating: You can rate each clip (figure 2 #2) by assigning a range of zero to five stars to it.
- Comment: Save important information regarding a clip by commenting (figure 2 #3) it.
- Label: Each clip can be labelled (figure 2 #4) and thus be categorized. Each label in the drop-down menu can be edited in the [application preferences](#). You get there pretty fast by clicking on “Edit..” in the drop-down menu as you can see in figure 2 #5.

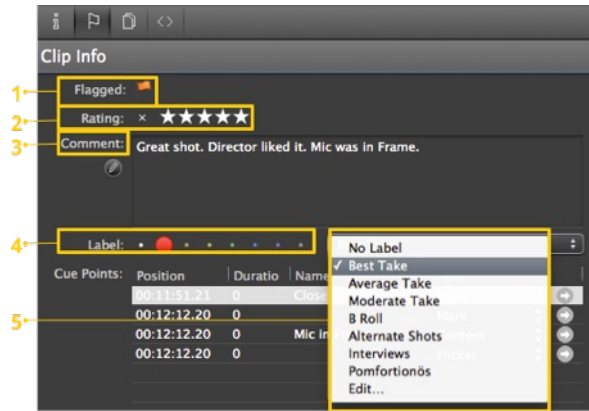


figure 2: Information panel – “User” section

- Cue Points: The cue points table (figure 3) shows all set markers for this clip (#1). For a better overview of your markers, within a clip you can assign each marker to one of a set of predefined categories (#2) and also search for them (#4). You can add new markers, delete existing and jump to the next by the buttons in the lower left corner (#3).

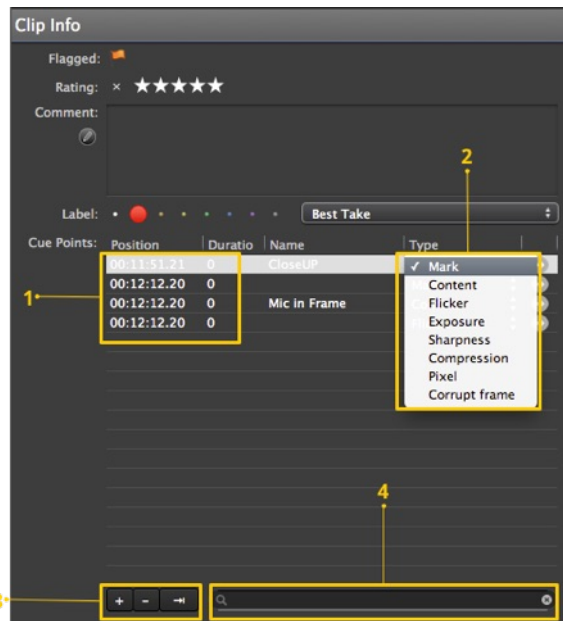


figure 3: Information panel – “User” section: Cue points

Using the Clip Information View

To inspect, edit, and add metadata you can use the information view. To activate it switch the view on the left from “Library” to “Information”.

The Information view provides several subviews:

- General Info – Overview of the clip’s metadata
- User Info – Additional metadata like ratings, comments, and cue-points
- File Info – List of file resources, showing the different disk the clip was copied to
- Header Info – Detailed information of all metadata extracted from the clip

Using the table view

Silverstack’s clip table view is a great way to get an overview of the various metadata of a set of clips. Some of the fields are editable and you can jump from field to field by pressing the TAB key.

Secondary click on the table header to show or hide metadata fields. You can also rearrange table columns by dragging the columns headers.

Using the Quick Entry panels

In the [playback view](#) the “*Quick Entry*” panels allow you to easily set metadata for the current clip via keyboard shortcuts in a very fast way. Here is an overview of the available commands:

1. Rating ⌘+⌘+A
2. Comment ⌘+⌘+S
3. Label ⌘+⌘+D
4. Scene/Shot/Take ⌘+⌘+T (figure 4)

You can also trigger the panels from the Silverstack menu: *Edit > Clip > Quick Entry*

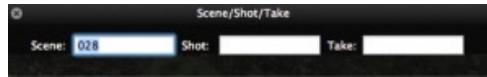


figure 4: Quick Entry panel for Scene/Shot/Take information

Filter By Metadata

The more metadata you have added to your library the better you can use it to organize your clips using some metadata attributes.

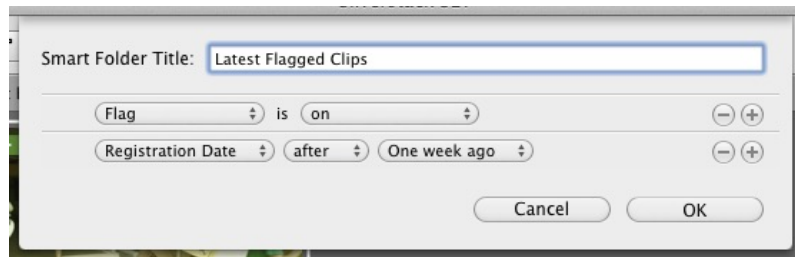
Search

You can query all metadata fields by using the search field in the upper right of Silverstack . To search for cue points use the search field at the bottom of the “*User*” tab within the information panel (figure 3 #4).

Smart folders

Smart folders are folders that show all clips that match some criteria. Silverstack creates some smart folders by default like “*Registered today*” a folder that contains all clips that were added to the library today.

To create your own smart folders, just click on the “+” button in the lower left and choose “*Add Smart Folder*”.



Adding a smart folder showing the flagged clips of the last week

You can now specify the criteria a clip has to fulfill in order to be added to the smart folder. If you are adding more than one filter option, you have to choose if the clip has to fulfill only one or all of it. The example above show a simple smart folder showing all the clips that are flagged and that were registered during the last week.

Export Metadata

To really leverage your metadata you might want to export the information for usage in other tools of your digital cinema workflow, Silverstack provides the following export options:

- Reports – Create a report that contains an overview on all clips and save it as pdf/html.
- CSV, XML – Create files that you can import in spreadsheet applications like Excel or Numbers. Or write your own scripts to process the data.
- Transfer to Final Cut Pro – Get your clips and the metadata into Final Cut Pro 7 and X.
- Transfer to AVID Media Composer – Get clips and metadata into AVID using ALE files.

For further information about the Silverstack “*Transfer*” function go to the respective article [Transfer](#).

Note: Not every transfer format can carry the same amount of information. That is why metadata workflows differ from format to format and thus from tool to tool.

Tips & Tricks: Quick metadata editing

The clip library is the core of Silverstack. With this guide we would like to give you some tips to speed up the metadata editing process. During offload and backup all clips and files are registered in the library and metadata can

be added while still copying the files.

Here are some features that might improve your metadata workflow in Silverstack:

1. Batch metadata editing

Silverstack offers the possibility to add metadata to multiple clips at a time. Simply select the different clips in the table and list view and click the edit button from the metadata field on the right panel (figure 1 #1). Make sure to check the «Apply to selection» check box (figure 1 #2) to modify all the selected clips.

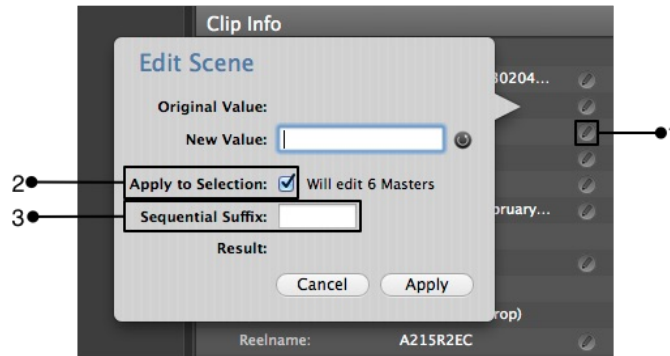


figure 1: Batch metadata entry and sequential suffix

2. Sequential suffix

Silverstack lets you add a sequential suffix to certain clip metadata fields:

- Clip name
- Scene
- Shot
- Take
- Reel name
- Lens
- Look name
- Filter

To use this feature, simply write the fixed element of the name in the «New value» and the starting value of the sequence (integer number, letter) in the «Sequential suffix» box (figure 1 #3). For example enter: New Value: “Reel” and Sequential Suffix: “1” and the result is “Reel1”, “Reel2”, “Reel3”, etc.

3. Quick Entry

In the Playback View the «Quick Entry» panels allow you to easily set metadata for the current clip via keyboard shortcuts in a very fast way. Here is an overview of the available commands:

- Rating ⌘+⌘+A
- Comment ⌘+⌘+S
- Label ⌘+⌘+D
- Scene/Shot/Take ⌘+⌘+T

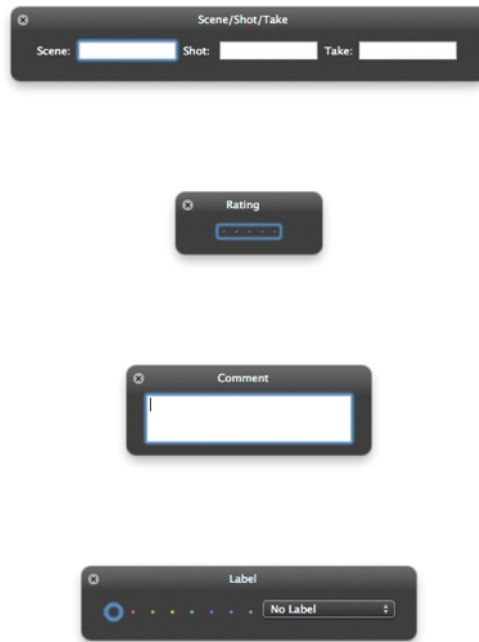


figure 2: Quick Entry panels for Scene/Shot/Take information

You can also trigger the panels from the Silverstack menu: Edit > Clip > Quick Entry

4. Keyboard shortcuts

Silverstack's metadata related keyboard shortcuts:

- ⌘ = Increase rating
- ⌘ - Decrease rating
- ^ o Clear
- ^ 1 Set rating to 1
- ^ 2 Set rating to 2
- ^ 3 Set rating to 3
- ^ 4 Set rating to 4
- ^ 5 Set rating to 5
- ^ A Increase scene
- ^ Z Decrease scene
- ^ S Increase shot
- ^ X Decrease shot
- ^ D Increase take
- ^ C Decrease take
- ⌘ + Increase label
- ⌘ - Decrease label
- ⌘ 0 No Label
- ⌘ 1 Best Take
- ⌘ 2 Average Take
- ⌘ 3 Moderate Take
- ⌘ 4 B Roll
- ⌘ 5 Alternate Shots
- ⌘ 6 Interviews
- ⌘ 7 Pomfortionös

Transfer metadata to FCP 7, FCP X, AVID Media Composer, and Speedgrade

To process your clips in other Tools like Avid Media Composer, FinalCut or Speedgrade you can use transfer wizards.

Navigate to the level in your project tree that contains the clips you want to transfer and click “Export ” in the actions bar. Now choose the desired program to transfer your clips, the clip metadata and other useful information.

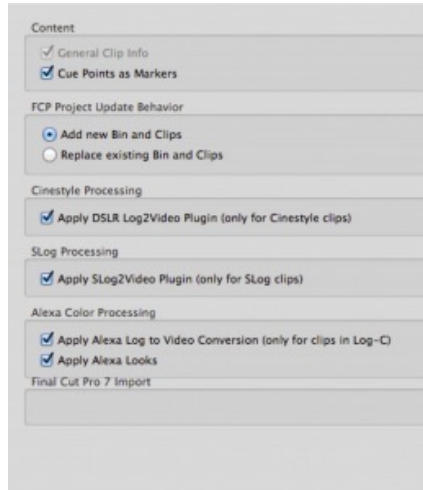


figure 2: Final Cut Pro 7 (XML)

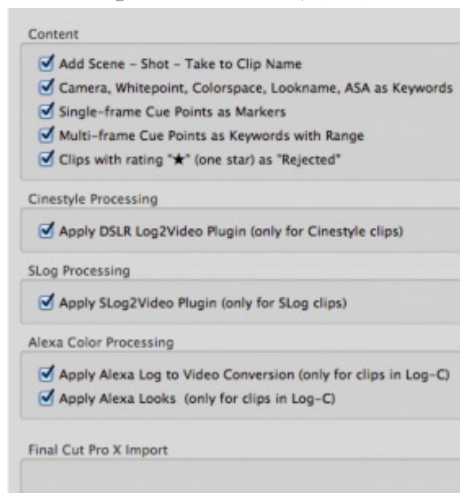


figure 3: Final Cut Pro X (XML)

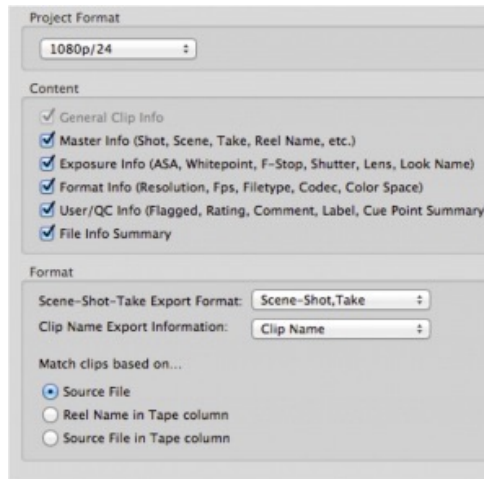


figure 4: Avid Media Composer (ALE)

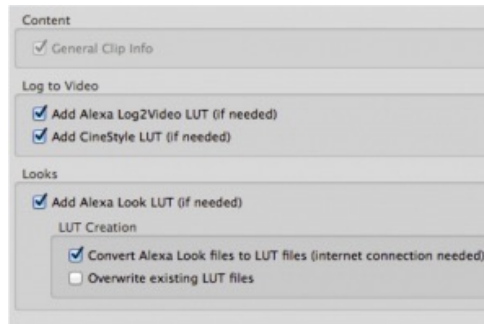


figure 5: Speedgrade/FrameCycler (IRCP)

After you have selected the proper program a corresponding “Export” wizard (figure 6) opens up. Choose the clips and then specify the export options as you can see them in figures 2 – 5.

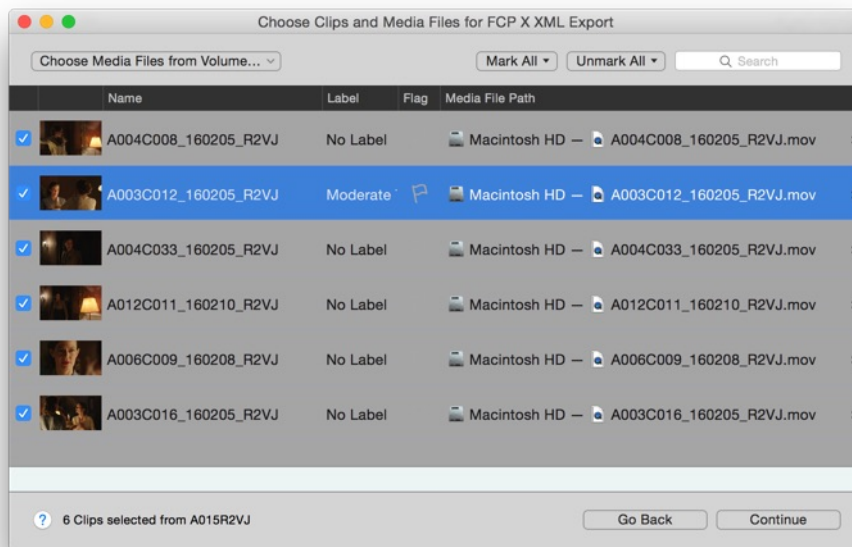


figure 6: Silverstack “Transfer”-wizard for Final Cut Pro 7

In the transfer process Silverstack transfers the edited information relating to the particular clip along with a link to its original clip’s storage location. It never overwrites the original clip’s metadata.

If you want to transfer your clips to Final Cut Pro X, you find a short explanation of the menu items affecting the metadata in the “Export” dialog in the article [Transfer metadata to FCP X](#). There is another [article](#) for transferring metadata into [Avid Media Composer](#).

If you want to export only metadata of one or several clips as a pdf/ cvs/ xml/ html, Silverstack provides you the “[Creating Reports](#)” function for that case.

Transferring Metadata to Final Cut Pro X

For the [transfer](#) of metadata via Final Cut Pro XML files (.fcpxml) the clip metadata is mapped accordingly and depending on the user-defined options as you can see in figure 1.

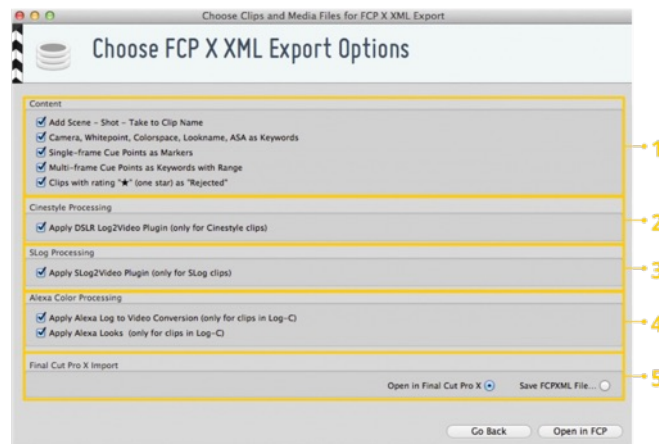


figure 1: “Transfer”-wizard for Final Cut Pro X

Content (figure 1 #1)

- Scene, shot and take name can be added to the name of the clip in Final Cut Pro X
- Various color information can also be transmitted. Properties as camera index, whitepoint, colorspace, lookname, ASA and label from Silverstack are mapped to keywords in Final Cut Pro X
- Single-frame cue points from Silverstack are mapped to markers in Final Cut Pro X
- Multi-frame cue points from Silverstack are mapped to a clip range marked with a keyword in Final Cut Pro X
- Clips marked as flagged in Silverstack are marked entirely as favorite in Final Cut Pro X.
- Clips with rating “★” (one star) in Silverstack are marked as rejected in Final Cut Pro X.

Color Processing (figure 1 #2-4)

By transferring your clips to Final Cut Pro X you can apply different color plugins in this step:

- for Cinestyle clips: DSLR Log2Video Plugin (#2)
- for SLog clips: SLog2Video Plugin (#3)
- for clips in LogC: apply Alexa log or looks (#4)

Import options (figure 1 #5)

You can either immediately open the selected clips in Final Cut Pro X or save them first as Final Cut Pro XML files.

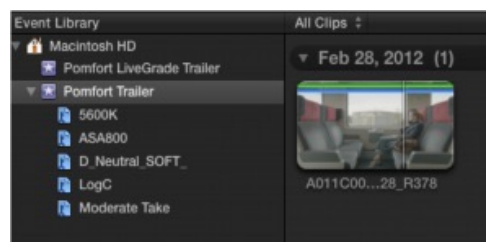


figure 2: From Silverstack transferred video clip in Final Cut Pro X

Mapping of metadata from Silverstack to Final Cut Pro X

For the transfer of metadata via Final Cut Pro XML files (.fcpxml) metadata is mapped accordingly (depending on the user-defined options):

- The range between in- and out-points in Silverstack is marked with Keyword “In-Out” in Final Cut Pro X.
- Properties camera index, whitepoint, colorspace, lookname, ASA and label from Silverstack are mapped to Keywords in Final Cut Pro X.
- Single-frame cue points from Silverstack are mapped to markers in Final Cut Pro X.
- Multi-frame cue points from Silverstack are mapped to a clip range marked with a keyword in Final Cut Pro X.
- Clips marked as flagged in Silverstack are marked entirely as favorite in Final Cut Pro X.
- Clips with rating “★” (one star) in Silverstack are marked as rejected in Final Cut Pro X.

Transfer Clips to DaVinci Resolve Including Clip and Color Metadata

Silverstack offers a solution to export clips to DaVinci Resolve including clip metadata as well as ASC-CDL color

metadata. Additionally it is possible to set up Resolve with the according LUTs to reflect the exact node based color processing done in Silverstack.

How to Transfer Clips from Silverstack to a DaVinci Resolve Timeline

The steps to perform to transfer a bin from Silverstack to a Resolve timeline including clip and color metadata are in detail:

1. Export FCPXML as well as additional clip and color metadata from Silverstack
2. Import FCPXML into DaVinci Resolve
3. Use the CSV import function in DaVinci Resolve to add clip metadata
4. Use the Colortrace function in Resolve to add ASC-CDL color data

Export FCPXML and Additional Clip and Color Metadata from Silverstack

To export to Resolve select the desired bin from the Silverstack Library. Either perform a secondary (right) click on the bin and select “**Export to > Davinci Resolve Export**” or from the “**Export**” button in the title bar of Silverstack choose “**DaVinci Resolve Export**”.

You will be presented with a window where you can select or deselect clips from the bin that should be exported:

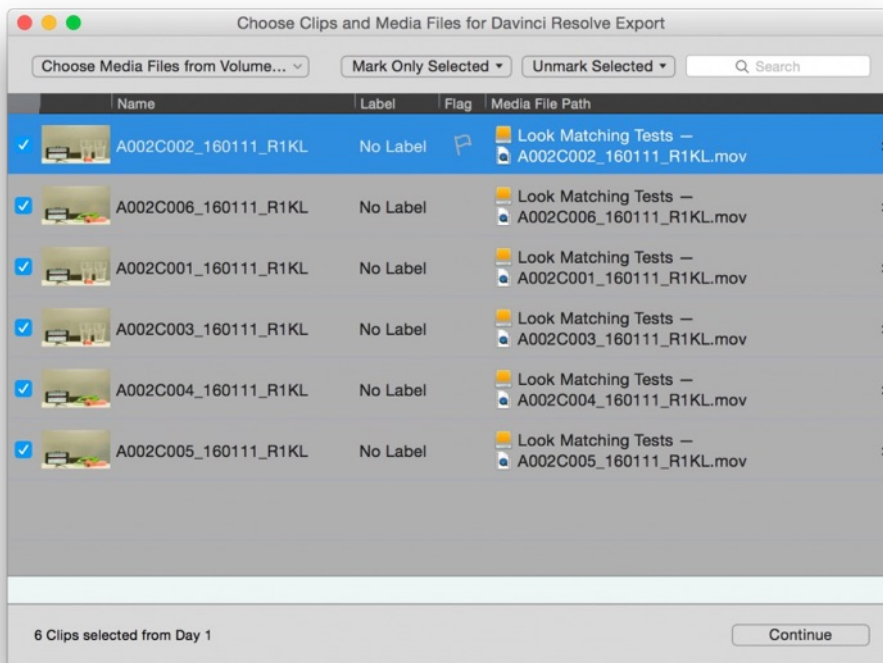


Figure 1: Choose clips and media files for Davinci Resolve export

After making your selection click “**Continue**”.

A further dialog window opens up:

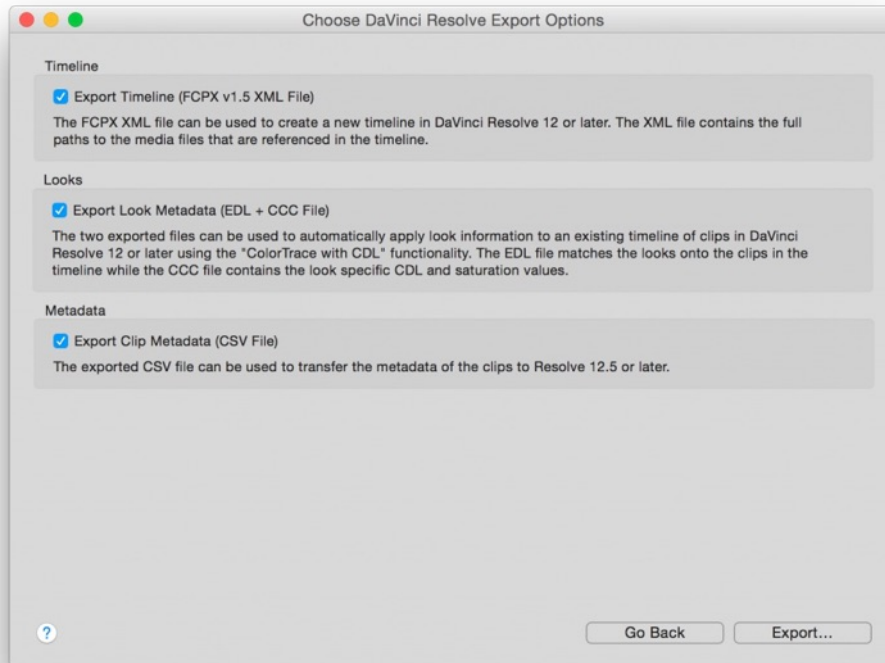


Figure 2: Davinci Resolve export options

It lets you choose from three export options :

- **Timeline (.fcpxml):** This export item is responsible for creating the timeline and populating the clips in Resolve.
- **Color metadata/Looks (.edl and .ccc):** These export items are responsible for adding the color metadata (ASC-CDL settings) to the clips in Resolve (via Colortrace functionality).
- **Clip metadata (.csv):** This export item is responsible for adding the clip metadata to the clips in Resolve.

To result with a **timeline, clip and color metadata** activate all three checkboxes and click “**Export...**”. Select the desired destination for the files. The FCPXML, EDL, CCC and CSV file will be put in the same directory automatically.

Import FCPXML into DaVinci Resolve

Open up DaVinci Resolve and create a new project.

From the Main Menu choose “**File > Import AAF, EDL, XML**”. Navigate to the path where you saved the FCPXML from Silverstack select it and click open.

You will be presented with an option window for loading XMLs:

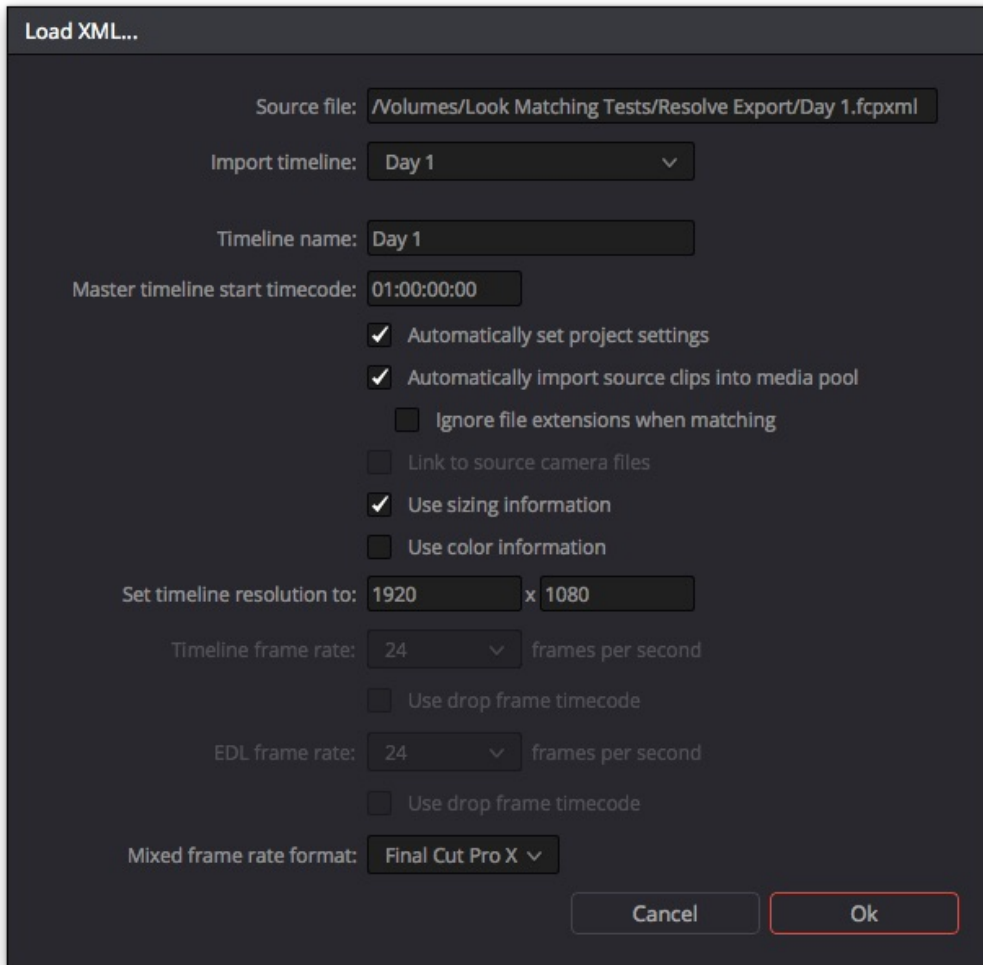


Figure 3: Preferences for loading an XML in DaVinci Resolve

Check to have the checkbox **“Automatically set project settings”** enabled which should be the case by default. That makes sure all settings will be adapted to match the clips from the FCPXML.

Click **“Ok”**.

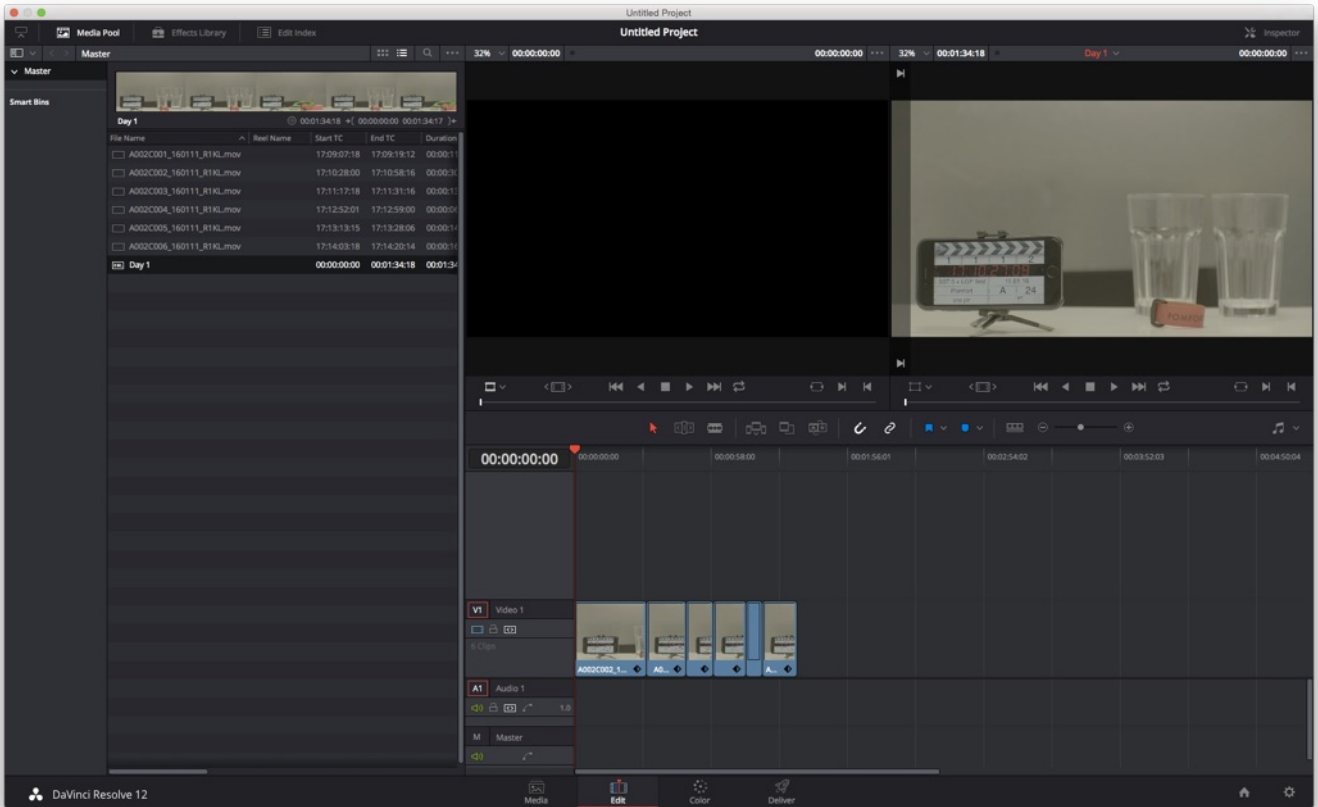


Figure 4: The main window of Resolve with the imported timeline

You should be presented with the “**Edit**” tab in Resolve that shows the Media Pool on the left and a timeline containing all the clips from the Silverstack bin you formerly exported.

How to Add Clip Metadata to the Clips in the Timeline

This process will only work in Resolve 12.5 or later.

Go to the “**Edit**” tab in Resolve. From the Main Menu choose “**File > Import metadata to... > Media Pool**”:

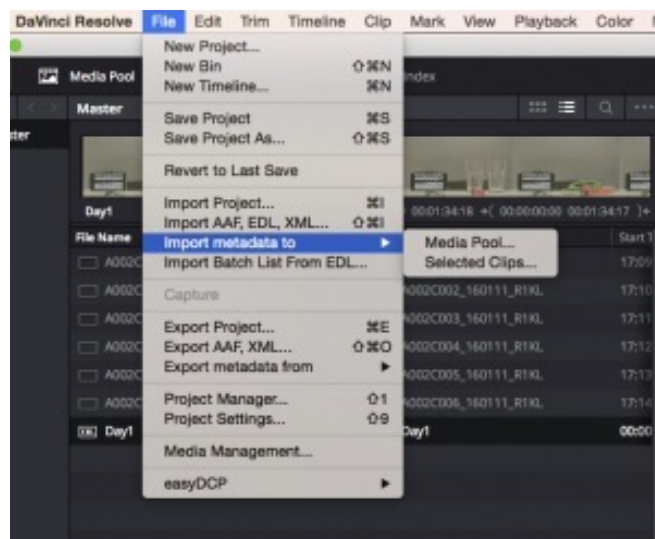


Figure 5: Import metadata from the csv

In the following opening dialog choose the .csv file that you exported from Silverstack and click open.

A metadata import window will follow:

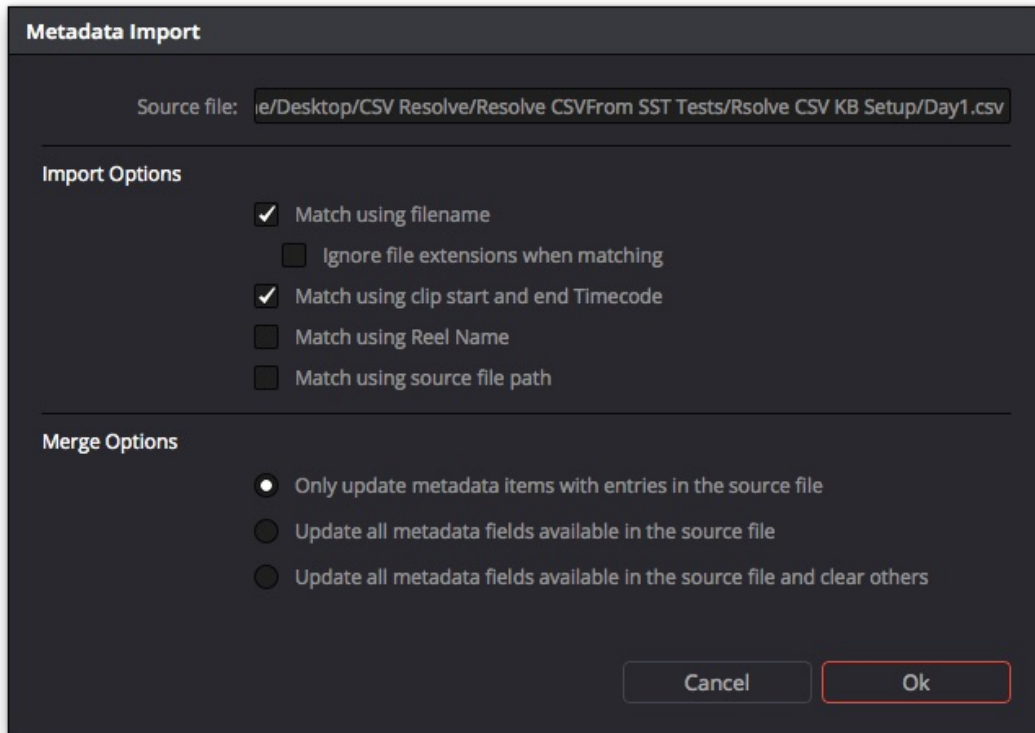


Figure 6: Metadata import options

Choose a meaningful combination of Import Options and Merge Options for your use case. Hit **“Ok”**.

All matching clips in the bin should now have received the new metadata. Select a clip and check the metadata section on the right side of the Resolve window for the results.

The FCPXML will already transfer a basic set of metadata. The additional metadata that can be transferred from Silverstack via the .csv file is in detail :

- Scene [Scene]
- Shot [Shot]
- Take [Take]
- Episode [Episode Name]
- Label [Clip Color]
- Flagged [Good Take]
- Comment [Comments]
- Camera ID [Camera #]
- LUT Nodes [LUT 1]
- CDL SOP [CDL SOP]
- CDL SAT [CDL SAT]
- Director [Director]
- Cinematographer [DOP]
- Production [Production Name]
- Producer [Producer]
- Camera Assistant [Camera Assistant]
- Data Manager [Digital Technician]
- DIT [Dailies Colourist]
- Location [Location]
- Lens [Lens Type]
- Color Space [Color Space Notes]

The labels in the brackets reflect the naming of the Resolve metadata fields the Silverstack metadata is mapped to.

Setting the Reel Name

To attain a proper match of the CDL values per clip you have to make sure that the Reel Names of the clips and the Reel Names in the Silverstack EDL match.

In the Project Settings go to “**Master Project Settings**” and inside of that to “**Conform Options**”. Make sure to check “**Assist using reel names from the:**” checkbox:

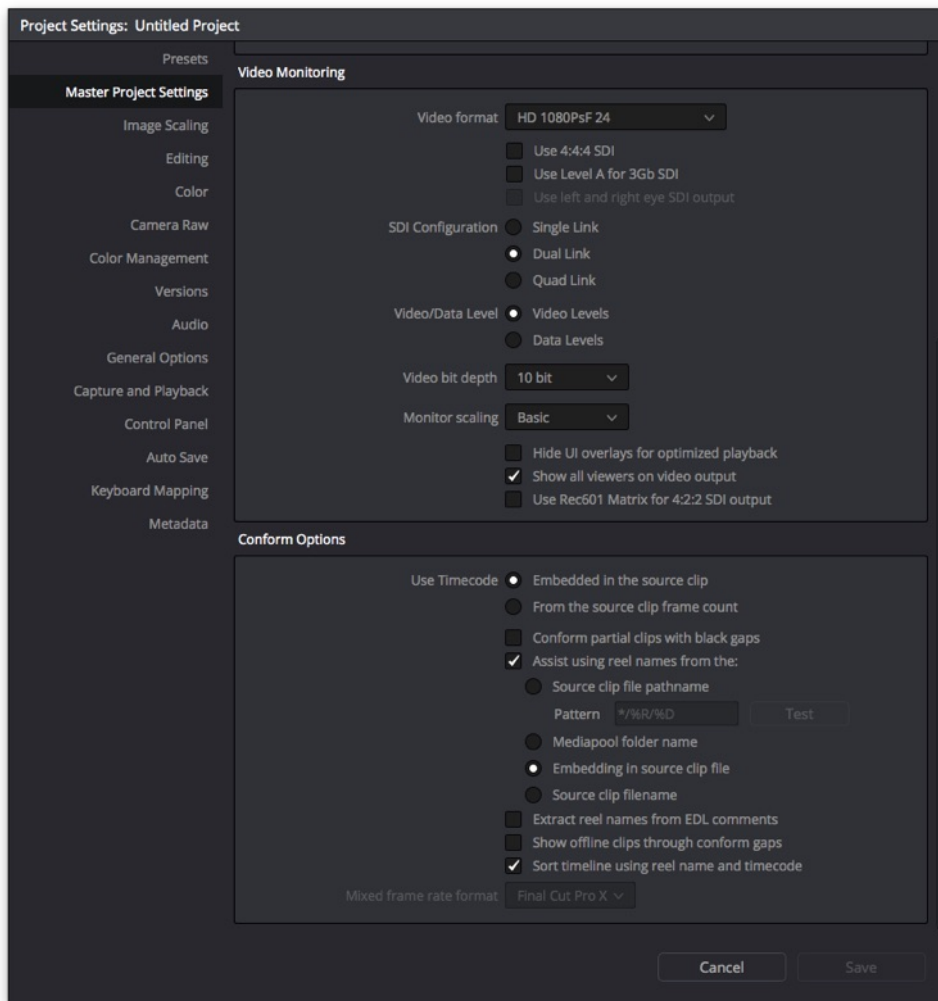


Figure 7: Set the Project Settings Conform Options for the right reel name handling for Color Trace matching

Based on your clip types as well as path structure and clip file names the settings that match your workflow could differ.

Selecting “**Embedding in Source clip file**” as an option should work for QT ProRes and ARRIRAW workflows.

Search the DaVinci Resolve manual for “**extraction pattern operators**” to learn how to use extraction patterns to pull reel names from your media paths.

Please be aware that the ColorTrace matching wizard will also give you the opportunity to “**Ignore Reel Names**” (see also Fig. 9) .

How to Add Color Metadata to the Clips in the Timeline

Use the Colortrace Function to add ASC-CDL color metadata.

After creating the timeline you will be able to add the color information.

Select the timeline from the media pool. It should be marked with a little XML indicator on its lefthand side. Perform a secondary (right) click on it and choose “**Timelines > ColorTrace > ColorTrace from CDL**” from the context menu:

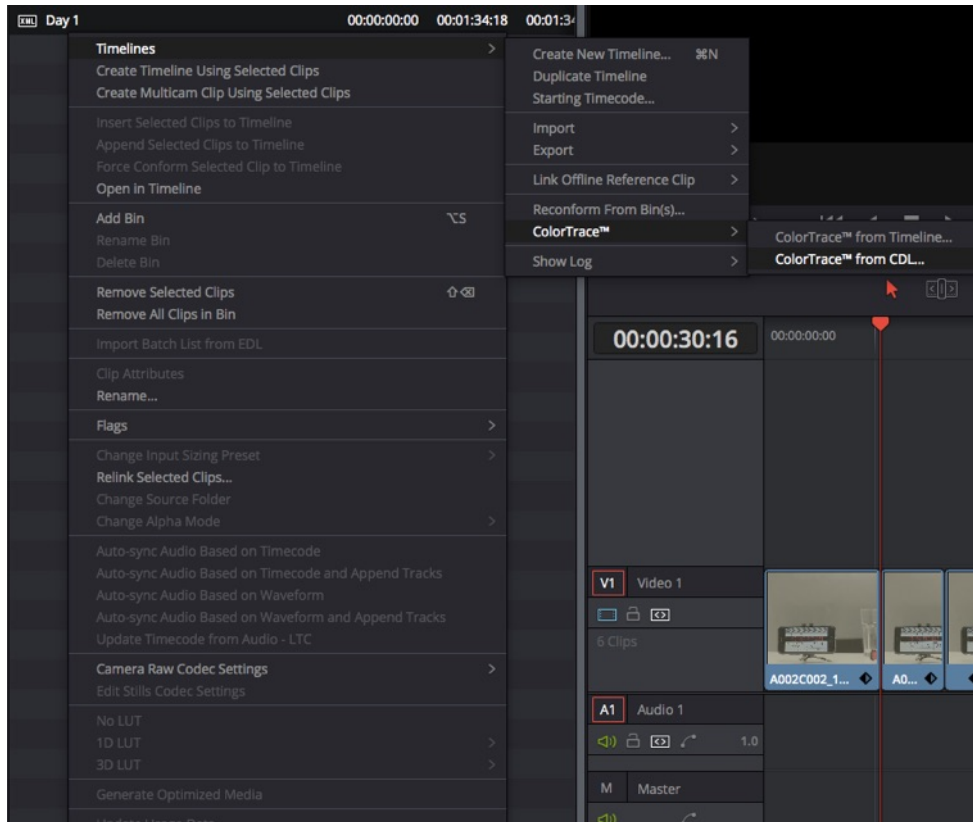


Figure 8: Select ColorTrace from CDL

You will be presented with an open dialog where you will first have to choose the exported EDL file. Right after that you will have to choose the exported CCC file.

After opening both of them you will be presented with the ColorTrace option window:

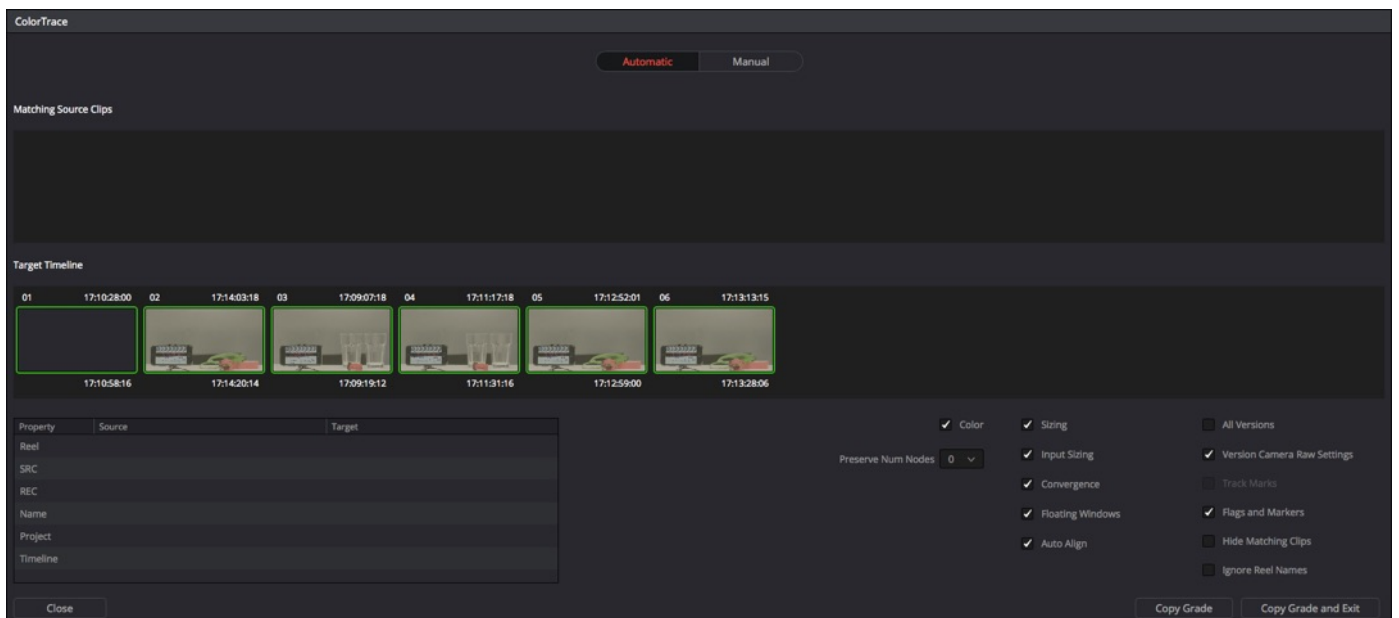


Figure 9: The ColorTrace option window

If all the clips have green borders everything matches fine. Click **“Copy Grade and Exit”** to copy the according grades to the clips.

Switching to the Color tab presents you with the clips that now have the ASC-CDL color metadata from Silverstack added:



Figure 10: Switch to the color tab to see the clips with added color metadata

Transfer Color Metadata to Assimilate Scratch

You can export an .ale from Silverstack to transfer ASC-CDL color metadata to Assimilate Scratch. Assimilate Scratch matches the according CDL values to the loaded clips and translates them into looks.

Exporting an ALE from Silverstack Including ASC-CDL Color Information

To export an .ale file from Silverstack go to the header bar and choose **“Export”** :

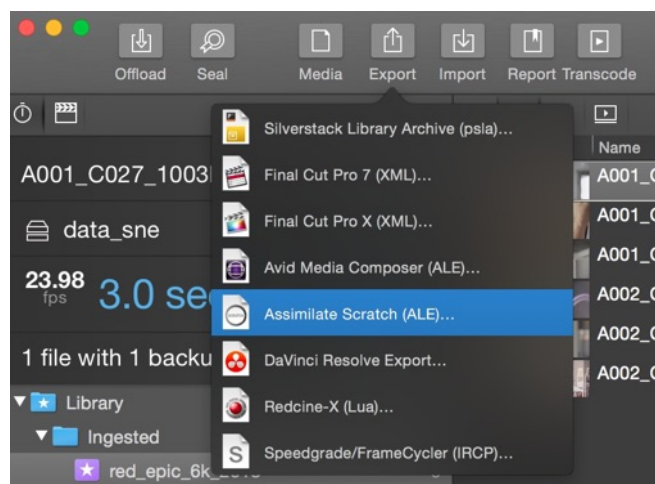


Fig.1: Choose Assimilate Scratch from the Export options.

Choose **“Assimilate Scratch (ALE)”** and a wizard window will open:

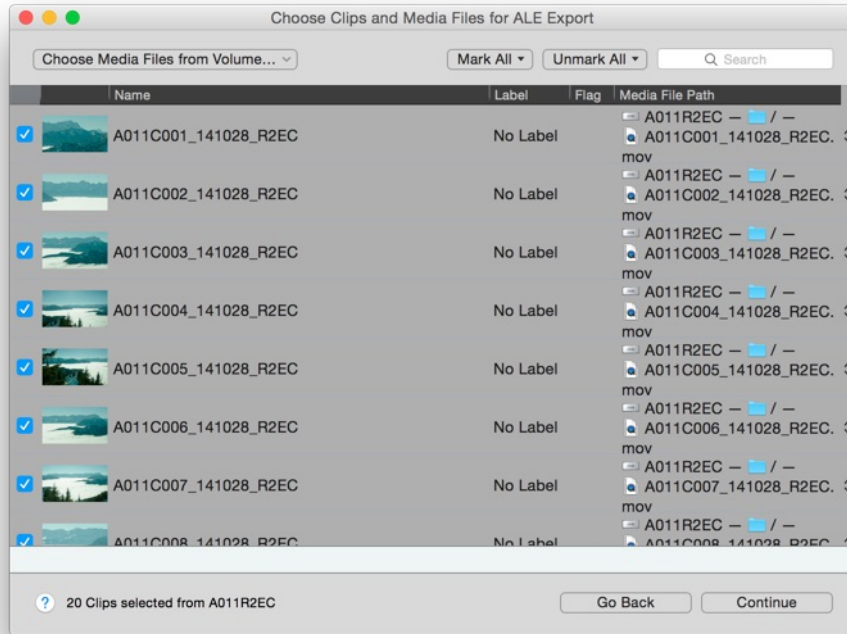


Fig. 2: Choose the clip you want to export in the ale.

Select the clips you want to export and click **“Continue”**.

In the next window choose your configuration:

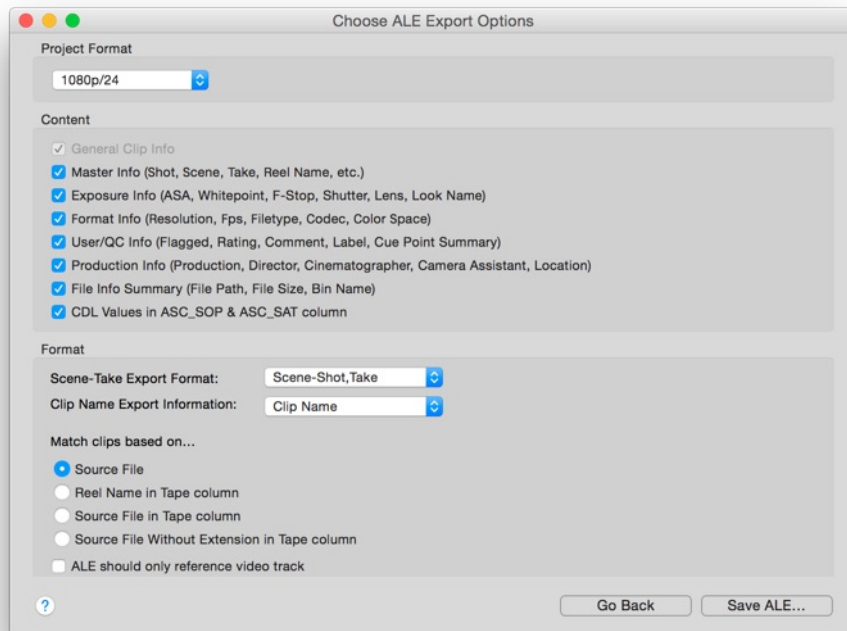


Fig. 3: Choose the ALE export options

Make sure the **“CDL Values in ASC-SOP & ASC-SAT column”** checkbox is checked to transfer color data to Assimilate Scratch.

Click **“Save ALE...”** to save the .ale file to the intended destination.

Importing an ALE in Assimilate Scratch and Matching Color Metadata

To import .ale files that contain color information in Scratch you have to follow 4 consecutive steps:

1. Import the clips into Scratch that you want to apply color information to.
2. Import the .ale file.
3. Check settings for matching and import.
4. Go to the clip view and find the ASC-CDL values affect the clips accordingly.

Let's break the steps down into detail:

Importing the Clips

Click the “Load Clips” button from the lower left side of the interface:

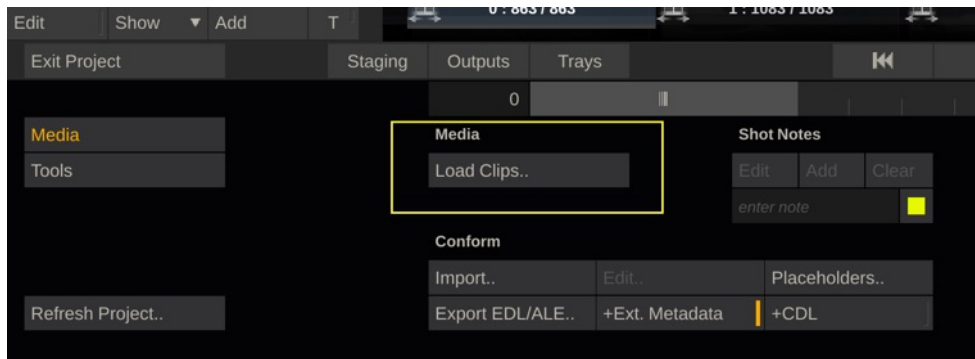


Fig.4: Click the Load Clips button to add clips to Scratch.

Choose the clips you exported the ALE for to add them to the Scratch project:

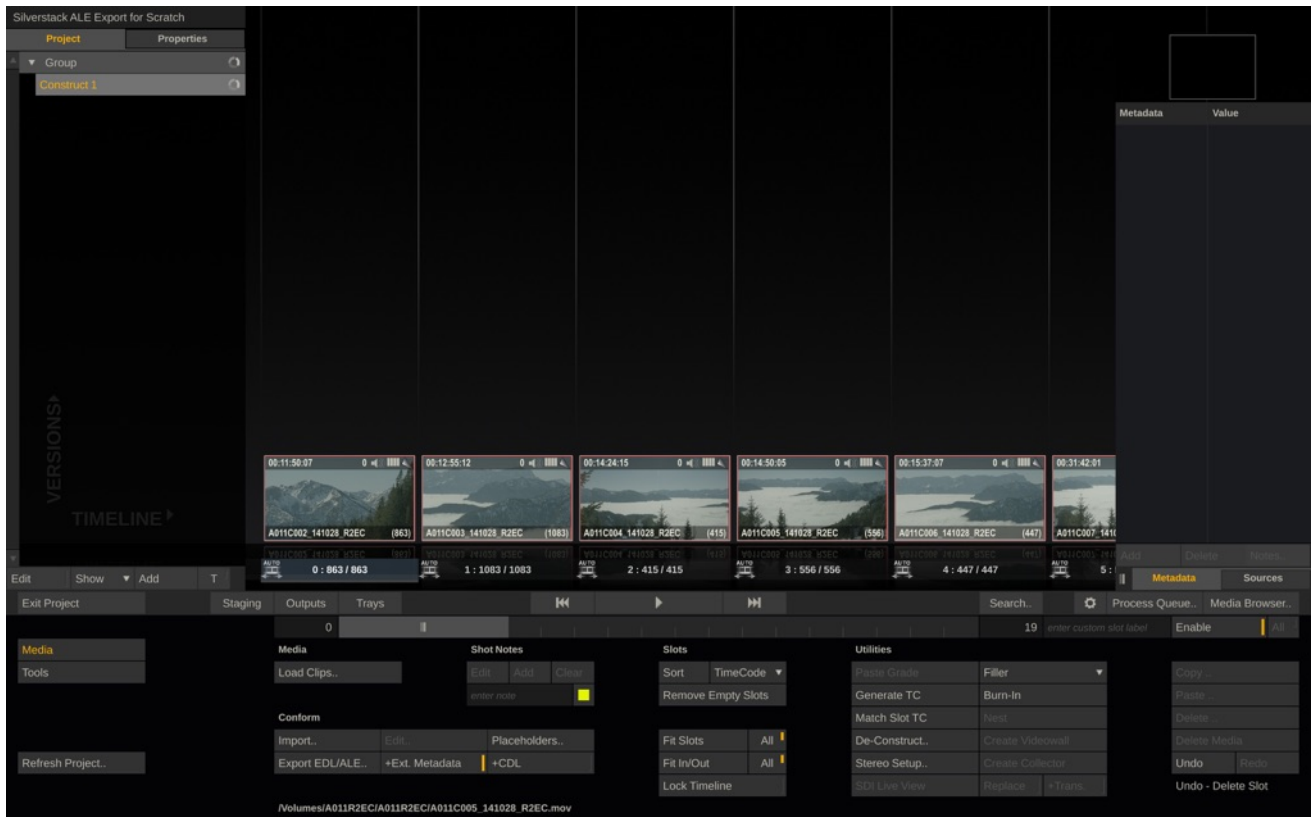


Fig. 5: Clips have been added to the project

Importing the ALE File

Go to the “**Conform**” section which you will find slightly below the “Load Clips” button you just used. Click the “**Import**” button to open the ALE:

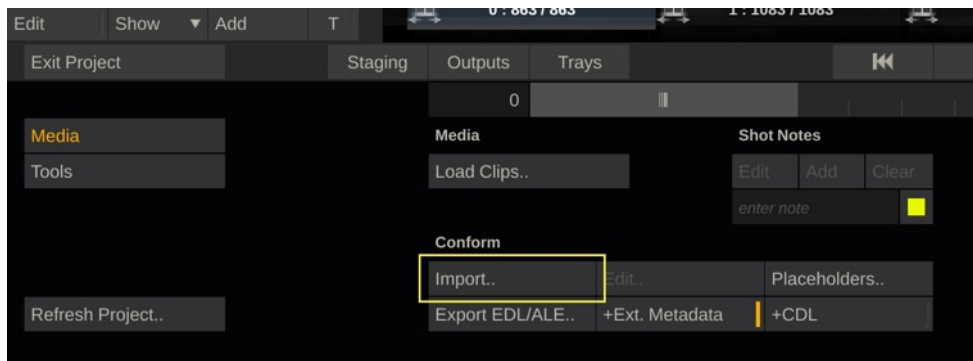


Fig. 6 : Choose “Import” from the conform options

Navigate to the exported ALE and click “Open”.

Check Settings for Matching and Import

You will see the matching user interface where now the ALE data will be matched to the clips:

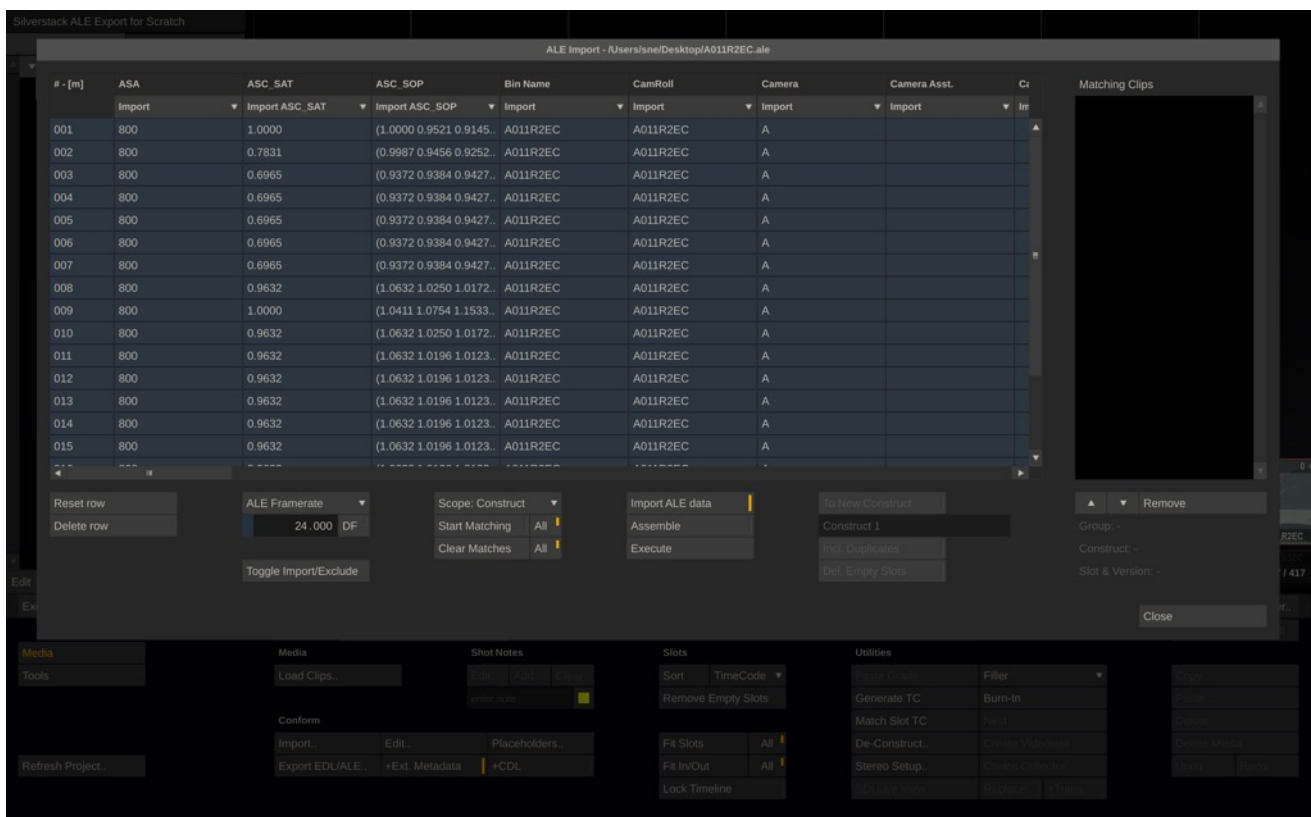


Fig. 7: The ale matching user interface.

At the top of the the columns from the .ale you can select the action that should be performed for each column. Make sure you have the “ASC-SOP” and “ASC-SAT” columns set to “Import”. Matching on TC or File Name will be easiest so make sure to that at least one of those columns, or any other you want to match based on, is set to “Match on...”. You can make that selection from the drop down on top of every column.

Click “Start Matching” to match the metadata (including the ASC-CDL data) to the clips according to your settings.

While then selecting the different rows in the ALE you will see the clips the data will be matched to in the right bar of the wizard.

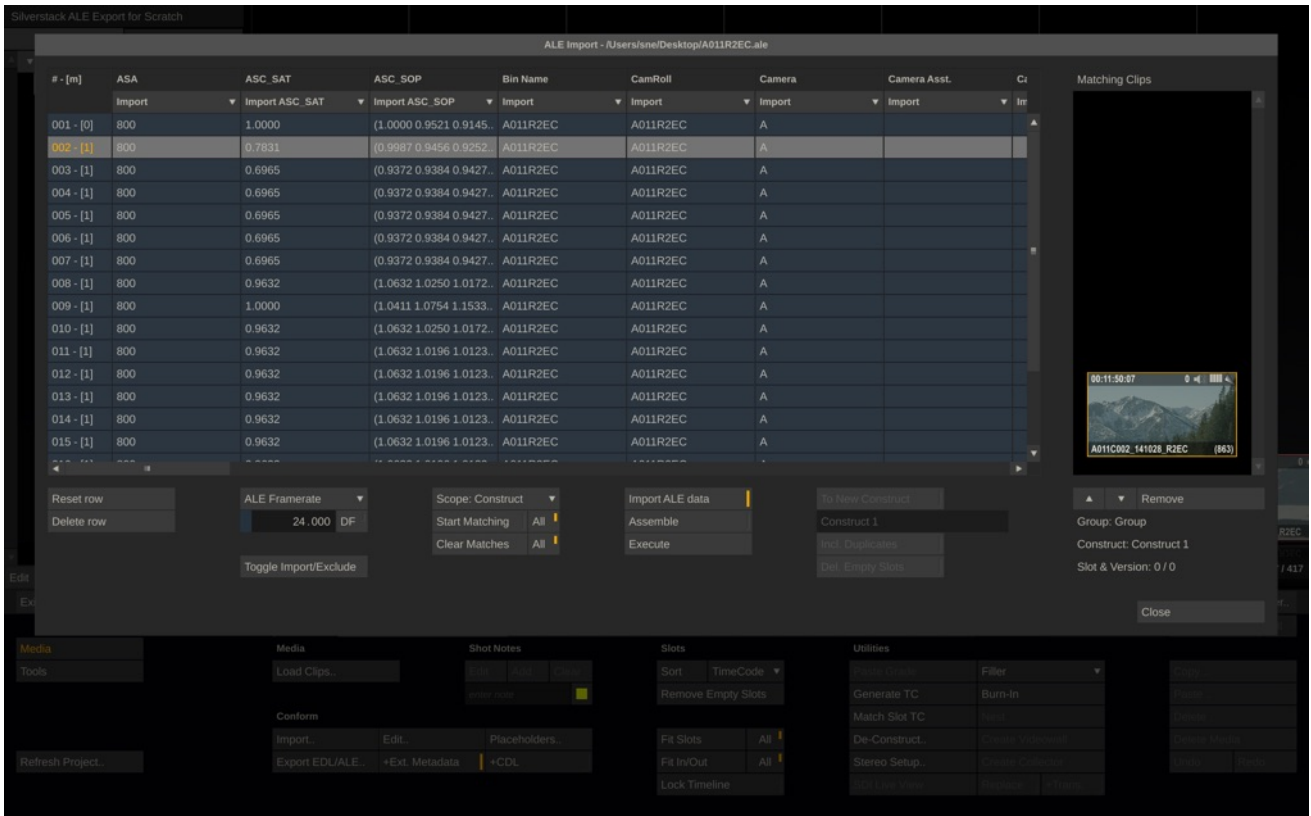


Fig. 8: The metadata has been connected to the clips.

Click **“Execute”** when you are happy with the match and want the metadata to be taken over to the clips.

Go to the Clip View and Find the ASC-CDL Values Affect the Clips Accordingly

Double click a clip to reach the clip detail view:

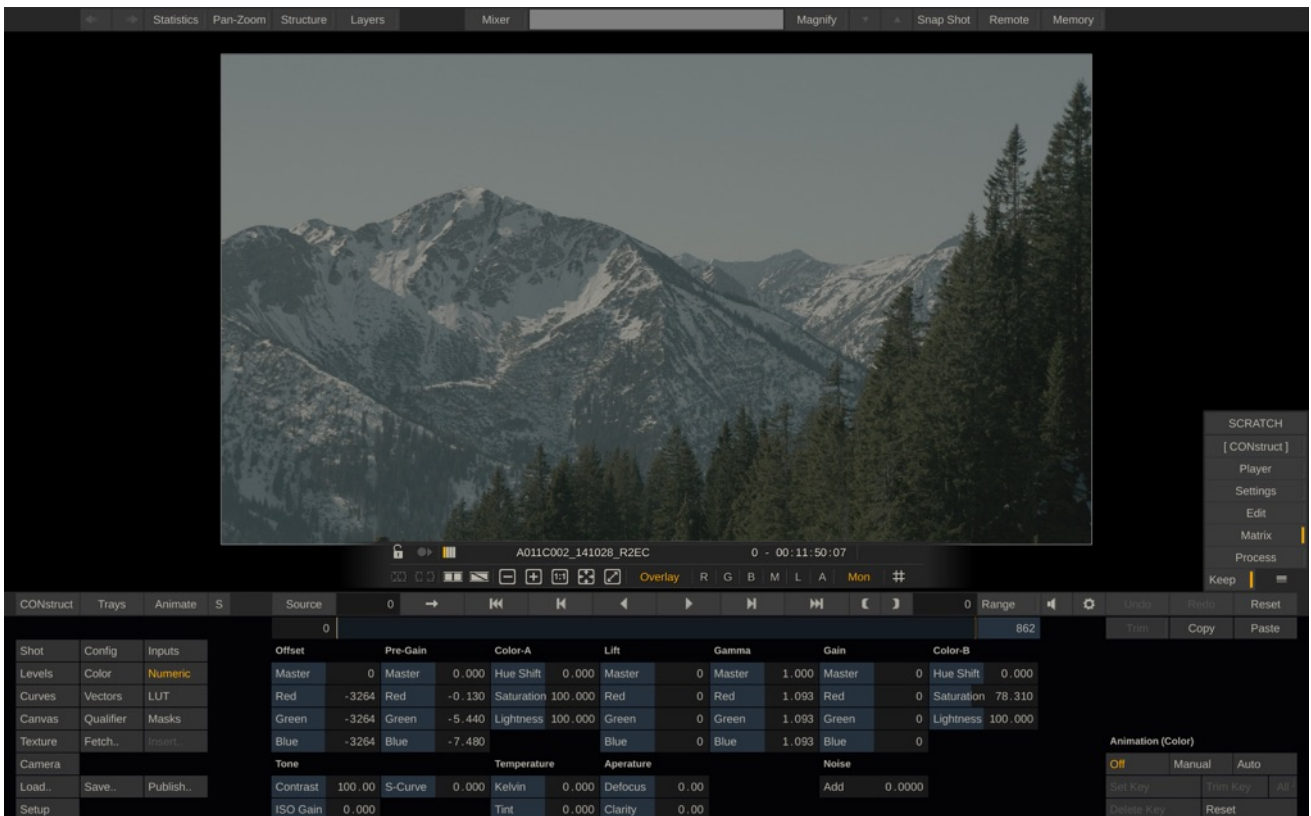


Fig. 9: The detailed view of the clip in Scratch

Select “**Matrix**” from the display options on the right side and “**Numeric**” from the panel on the left side. You will then see how the color settings have been affected by the imported ASC-CDL data.

If working in Assimilate Scratch on a PC monitor you have to set the right gamma to match the look of the clips to the perception inside Silverstack. Go to the Assimilate Scratch global settings to change the gamma if needed. Please be aware of the ColorSync settings in Silverstack as well (read about the setting in the article [Using Silverstack’s Full Screen Mode](#)).

Maintaining Grades and Clip Metadata Throughout Production

The use of Pomfort’s LiveGrade and Silverstack in combination with Assimilate Scratch allows for an integrated workflow that involves the preservation of clip and grade metadata throughout the process.

Looks generated with LiveGrade can easily be matched to the clips inside Silverstack. This workflow is also described in the article [Look Matching](#).

Silverstack can then export an ALE that contains information about the LUT in the grade for each clip. By using the LUT files along with the ASC-CDL data and the automatic matching process inside Assimilate Scratch, unique grades can easily be transferred for each individual clip.

This tutorial made by Assimilate Scratch will give you detailed insights on the workflow:

Transferring Metadata to Avid Media Composer

To transfer clips and their corresponding metadata information from Silverstack to Avid Media Composer the following two steps have to be performed:

- Create an Avid Log Exchange (ALE) file containing the metadata of the relevant clips in Silverstack
- The information from the ALE file has to be merged with available master clips in the Avid Media Composer.

Creation of an ALE file in Silverstack

1. Generating an ALE file is part of the [Transfer](#) process in Silverstack. So select the bin which contains the relevant clips, click on the “[Transfer](#)” button in the TabBar of the Silverstack window and choose “*to Avid Media Composer (ALE)*”.
2. Thereon select the clips you want to transfer in the wizard that opens up.
3. In the following you have to select the [information](#) to be transferred (figure 1 #1).

Besides the required general information you can additionally select master information (as scene, shot, take etc.), exposure information (as ASA, whitepoint, shutter etc.), format information (as resolution, FPS, codec etc.), user information (as flaging, rating etc.) and a file information summary.

4. The metadata is transferred to the Avid Media Composer via the ALE file and is only there matched with the clips (figure 1 #2) . The matching can be performed according to following metadata information: source file, the reel name in the tape column or the source file in the tape column.
5. Click on “*Save ALE...*”.

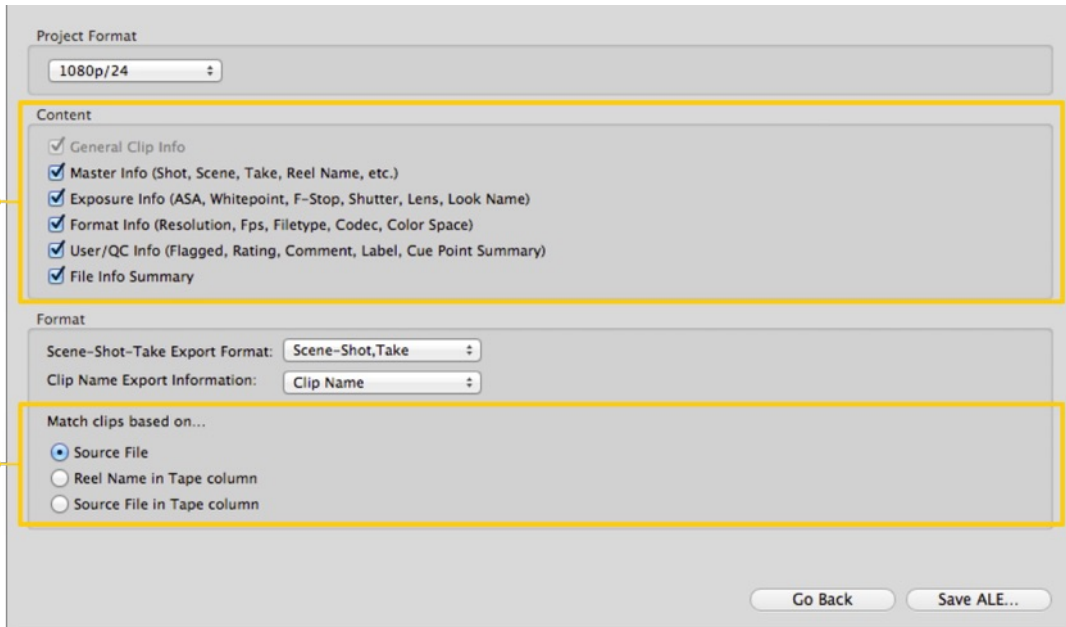


figure 1: Transfer dialog for Avid Media Composer – transfer options

Merging information from the ALE file with master clips

1. After having created the ALE file go to the Avid Media Composer and import the clips if not done so far. They should thereon be available as master clips.
2. Select the bin in the Avid Media Composer which contains the relevant clips.
3. Select those clips and choose “*Input > Import Media...*” from the context menu in the bin.
4. Open the “Options”, then click on “Options...” navigate to the Shot Log tab and select “*Merge events with known master clips*”.
5. Navigate to the ALE file you created before and click “*Open*”.

Avid Media Composer now matches master clips and metadata information from the ALE file according to their timecode and the criteria you selected during the transfer process within Silverstack .

The information from the ALE file is attached within additional columns in the bin table as in figure 2. Some of the columns are already known by the Avid Media Composer, all unknown information will be added as custom columns.

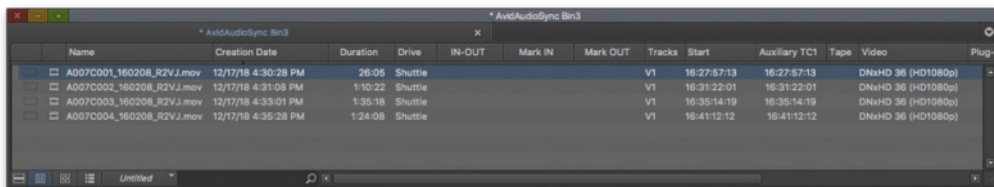


figure 2: Avid Media Composer: Extended metadata after the ALE import

If you cannot see any custom columns, perform the following steps:

1. Close and re-open the bin
2. Right-click in the free space of the bin window and click on “*Choose columns...*” in the context menu.
3. Then select and unselect columns, the custom columns from the imported ALE file you will find at the end of the list.

Transfer Color Metadata to AVID Media Composer

To learn about the basic process of transferring metadata to AVID please refer to the article [Transferring Metadata to Avid Media Composer](#). The article will help you through the process of matching metadata from an ALE file generated from Silverstack to master clips in Avid.

Adding Color Metadata to the ALE Export

When exporting your ALE file from Silverstack make sure you have the checkbox “**CDL Values in ASC-SOP &**

ASC-SAT column” checked:

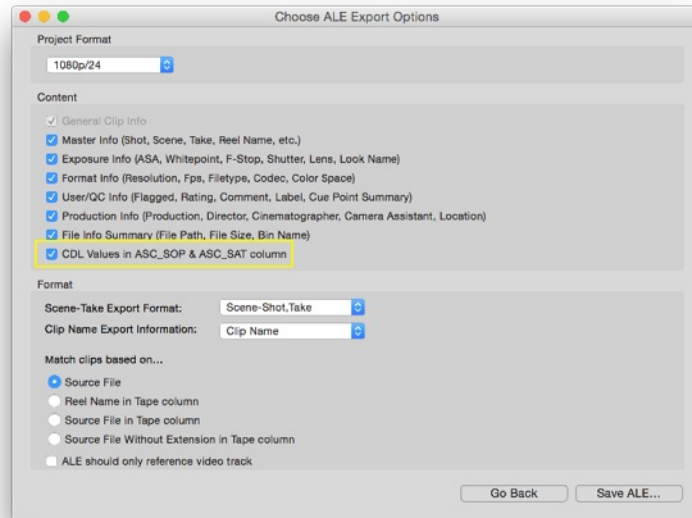


Figure 1: Include the CDL Values in the according columns of the ale file.

After the values are included in the ALE file perform the same steps as pointed out in the article [Transferring Metadata to Avid Media Composer](#). The result will be clips that have the CDL values from Silverstack in the ASC_SAT and ASC_SOP metadata columns in AVID Media Composer.

Transforming the Color Metadata Information into Looks in AVID

We will now use the color metadata information from the ASC_SAT and ASC_SOP column to apply them to the clips.

Select all clips in the bin you merged the metadata with. Perform a right click on the film reel icon on the left of an arbitrary clip:

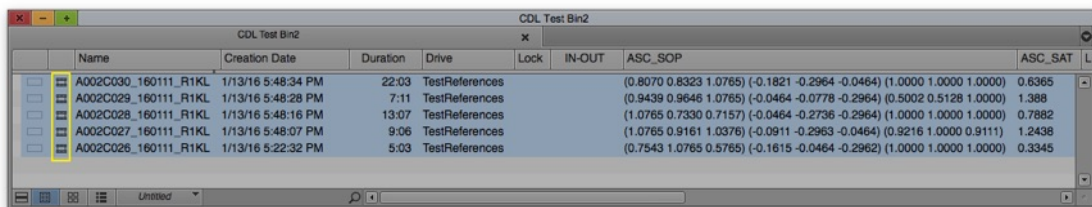


Figure 2: The bin with selected clips and the reel icons marked.

From the context menu choose **“Source Settings”**. You will see the following window:

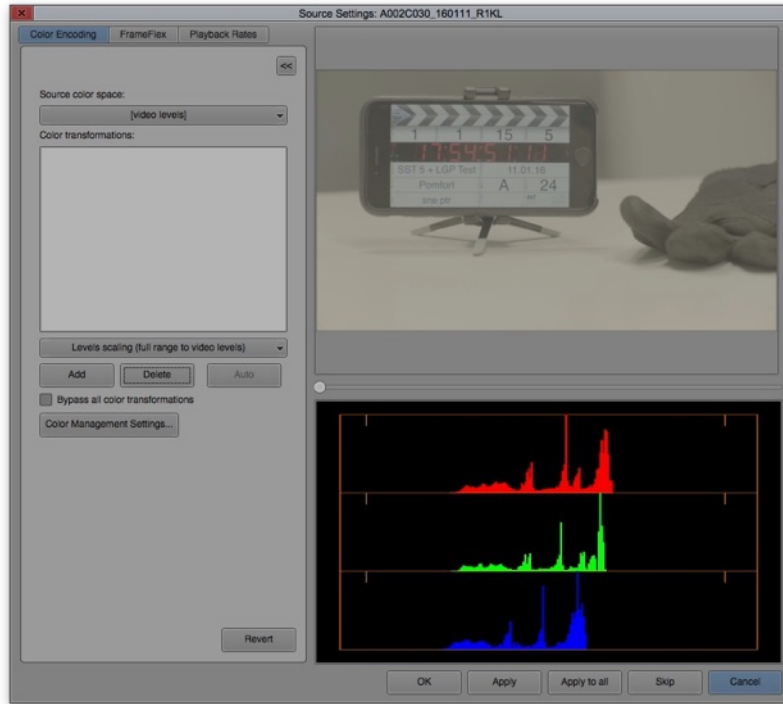


Figure 3: The Source Settings with the Color Encosing tab selected.

Make sure to have the tab **“Color Encoding”** selected at the top left of the window. Click the dropdown indicator in the menu where it says **“Levels scaling (full range to video levels)”** below the **“Color transformations”** list.

You will see a list of transformations to choose from:

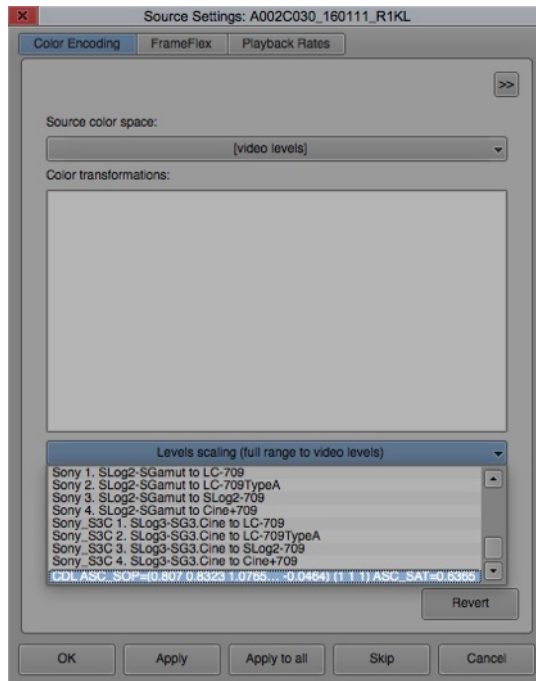


Figure 4: Choose the CDL ASC_SOP and ASC_SAT values from the bottom of the dropdown list.

Scroll down to the bottom of the list and select the **“CDL ASC_SOP ASC_SAT”** entry. Click **“Add”** right below and it will appear in the **“Color transformations”** list:

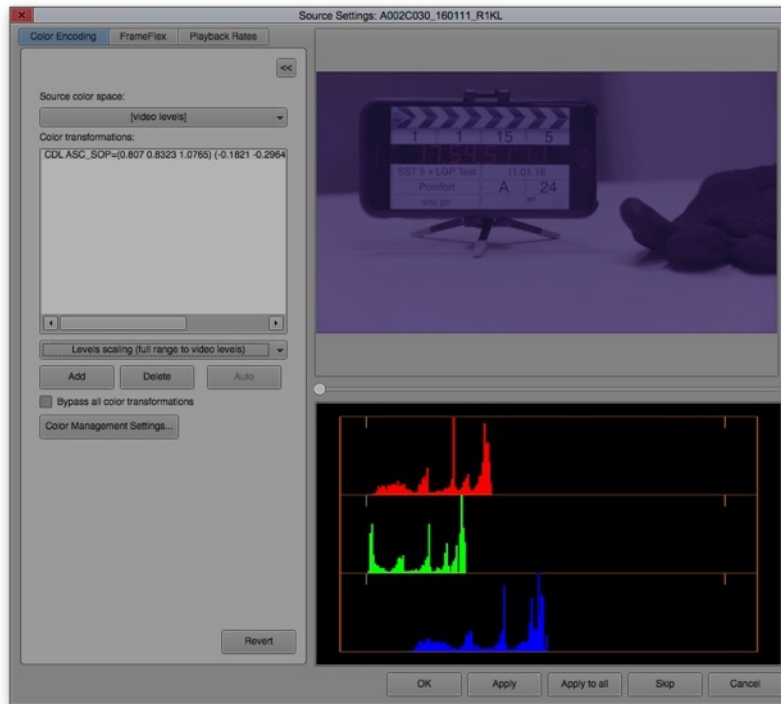


Figure 5 : The Source Settings with CDL values in the Color transformation list.

Now click **“Apply to All”** on the bottom of the window to apply the according CDL values to every clip. Click **“OK”** to leave the wizard. Every clip will now receive the look that is generated from its associated values in the ASC_SAT and ASC_SOP columns.

Adding a 3D LUT to the Color Processing

To add a 3D LUT again select all the clips you want to apply a LUT to. Perform a right click on the film reel icon on the left of an arbitrary clip and from the context menu choose **“Source Settings”**.

Instead of choosing **“CDL ASC_SOP ASC_SAT”** from the dropdown **select the desired LUT** and click **“Add”** to put it into the **“Color transformations”** list above:

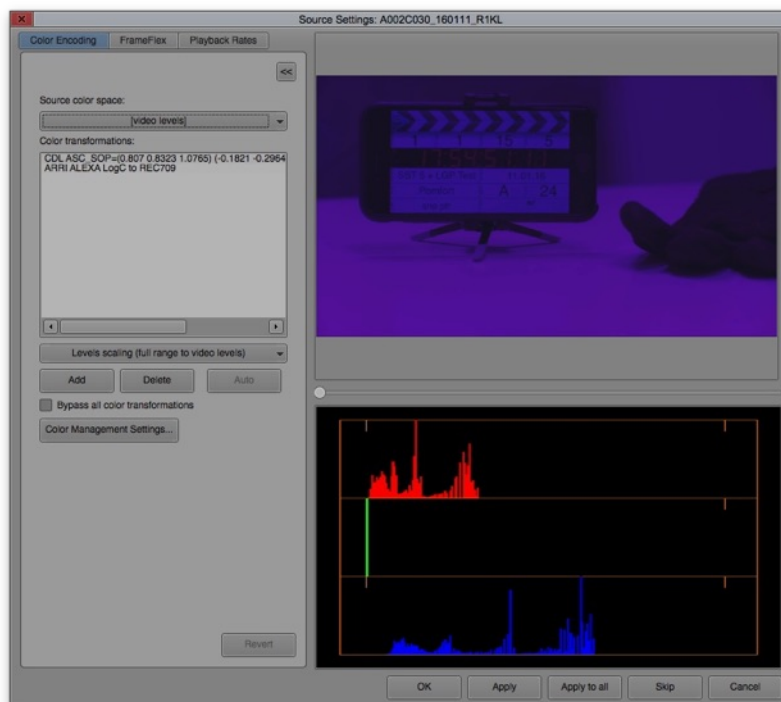


Figure 6: The source settings with CDL and LUT in the right order in the Color transformations list

Make sure that the CDL entry is on top of the LUT entry in the list. They will be applied in order from top to bottom as in the nodes in Silverstack.

Now click **“Apply to All”** to add the LUT to all the selected clips. Then click **“OK”** to leave the wizard. The clips will now all have and additional LUT added to the CDL processing.

Exporting Looks from Silverstack

It is possible to export CDLs and 3D LUTs from the Silverstack Look Library. To learn more about the Silverstack Look Library please refer to the article [The Silverstack Look Library](#).

To export the desired information go to the Look Library in Silverstack and choose one or more looks to export. Perform a secondary click (right-click) on one of the selected looks and from the context menu choose **“Export selected Looks”**:

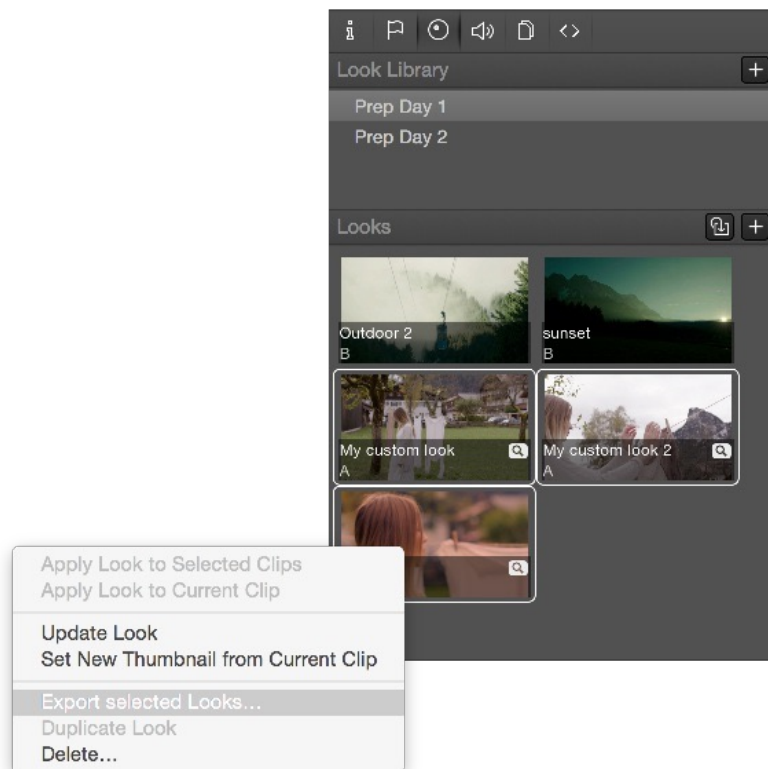


Figure 1: Select one or multiple looks for export and with a secondary click open the context menu.

You will then be pointed to a save dialog where you will be able to choose from different formats for the export:

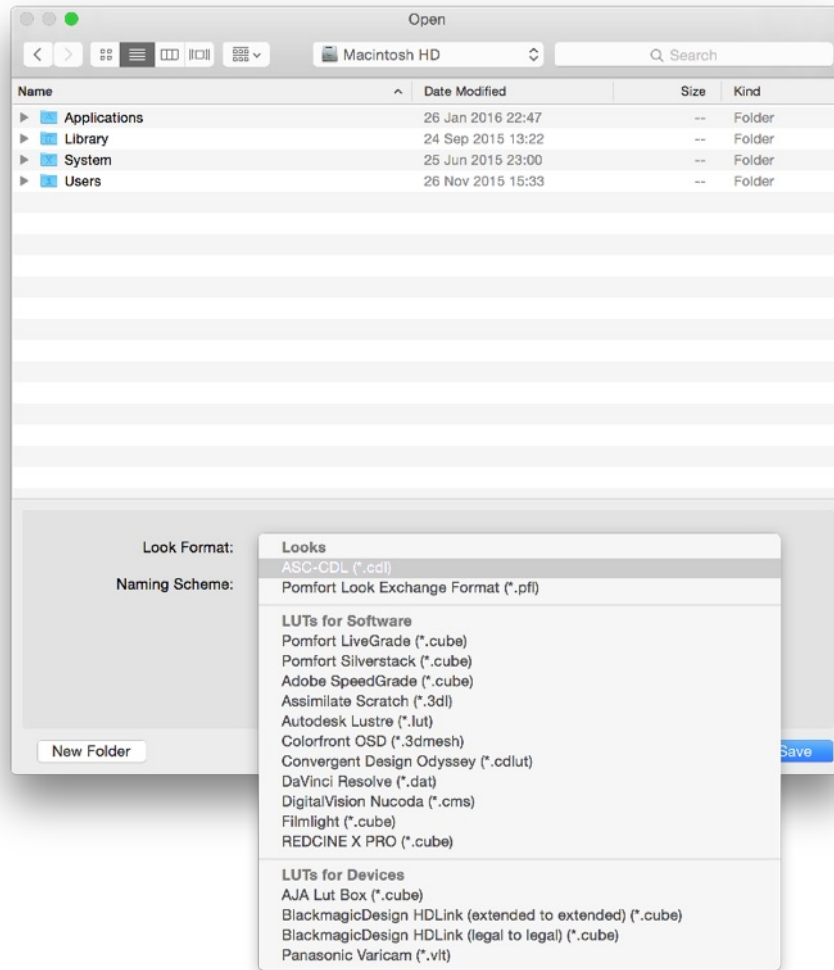


Figure 2: The export window with the different export options.

You can choose between three categories to export your look:

- Looks
- LUTs for Software
- LUTs for Devices

Looks include:

- ASC-CDL (.cdl, for all grading modes where possible)
- Pomfort Look Exchange Format (.pfl, for Look Exchange with LiveGrade Pro)
- Alexa Look (.xml, for ARRI Alexa compatible look export)
- Amira Look (.aml, for ARRI Amira compatible look export)

LUTs for Software include:

- Pomfort LiveGrade (33x33x33, RGB order, .cube file)
- Pomfort Silverstack (33x33x33, RGB order, .cube file)
- Adobe Speedgrade (32x32x32 3D LUT, .cube file)
- Assimilate Scratch (32x32x32 .3dl file)
- Autodesk Lustre (33x33x33 .lut file)
- Colorfront OSD (17x17x17 .3dmesh file)
- [Convergent Design Odyssey](#) (17x17x17 .cdlut file)
- DaVinci Resolve (33x33x33 3D LUT, .dat file)
- DigitalVision Nucoda (17x17x17 .cms file)
- Filmlight Baselight (32x32x32 .cube file)
- REDCINE X PRO (33x33x33, rgb order .cube file)

LUTs for Devices include:

- BlackmagicDesign HDLink Legal to Legal (17x17x17 .cube file)
- BlackmagicDesign HDLink Extended to Extended (17x17x17 .cube file)
- [AJA Lut box](#) (17x17x17 .cube file)
- Panasonic Varicam (17x17x17, rgb order .vlt file)

Choose **the desired look format** and the intended directory and hit **“Save”**. You will then be able to use the exported look in the intended destination software or device.

Exporting Look Archives from Silverstack

You can export complete folders with looks directly from the Silverstack Look Library into a **Look Archive (.pfla)**. To do that select one or multiple folders from the Silverstack Look Library. Perform a secondary click (right click) and select **“Export selected Folders as Look Archive”** from the context menu:

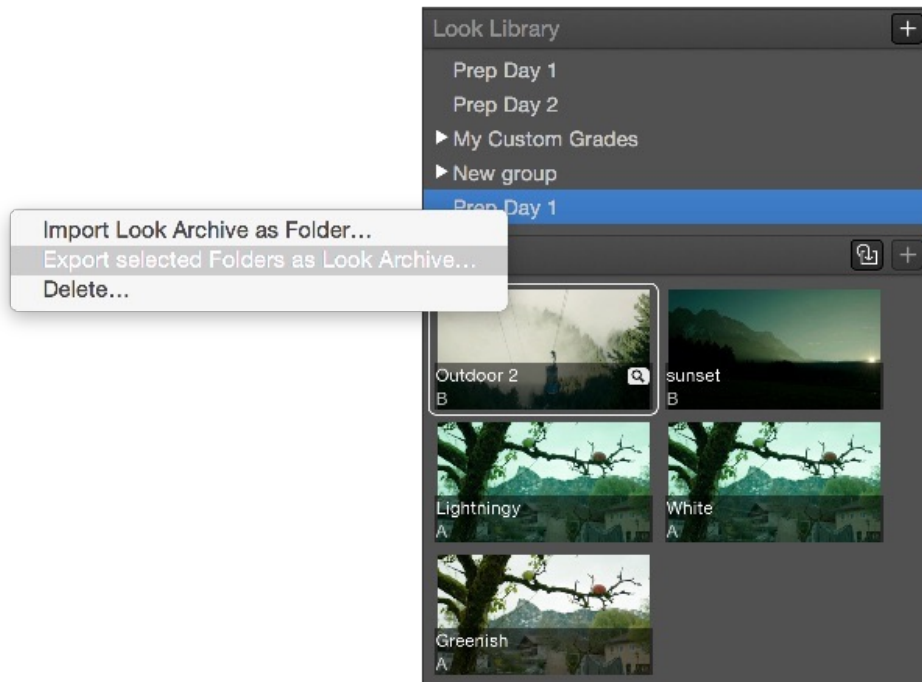


Figure 2: Exporting a Look Archive from a folder in the Silverstack Look Library.

In the following wizard select the directory you want to save to and click **“Save”**. The .pfla file will then be available for further use from that directory.

To learn how to import a Look Archive please refer to the article [Transferring Looks from LiveGrade to Silverstack](#).

Transferring Looks from LiveGrade Pro to Silverstack

Silverstack’s Look Library and grading controls enable you to receive looks from LiveGrade. You can choose to export **a single look** or **multiple looks**. A single look will be handled as a **Pomfort Look (.pfl)** file, while multiple looks will be put together into a **Pomfort Look Archive (.pfla)** file. To transfer looks from LiveGrade including all grading nodes and their settings perform the following steps.

Exporting a Look from LiveGrade

Select the desired look(s) in the library of LiveGrade. In the main menu go to **“File>Save selected Looks As...”**:

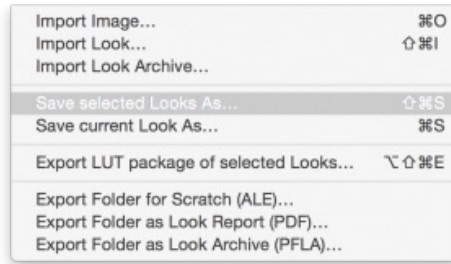


Figure 1: Save selected Looks as

After that a save dialog appears. As **“Look Format”** select **“Pomfort Look (.pfl)”** then choose the name and the destination to save to:

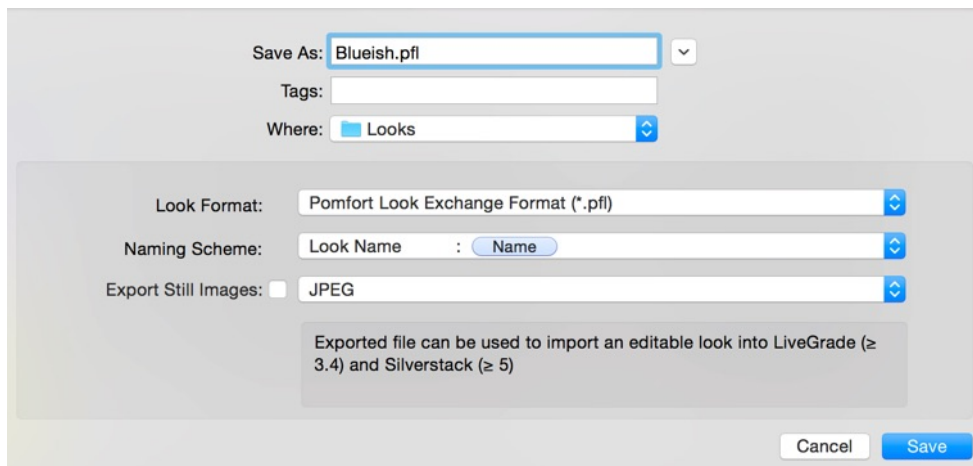


Figure 2: Save dialog for “Pomfort Looks”

More information about creating and managing looks in LiveGrade can be found in the articles [Grading Modes in LiveGrade](#) and [Create Clips, Stills and Looks](#).

Importing a Look into Silverstack

Open Silverstack. Go to the Main Menu and select **“File>Import>Pomfort Looks (pfl)...”**.

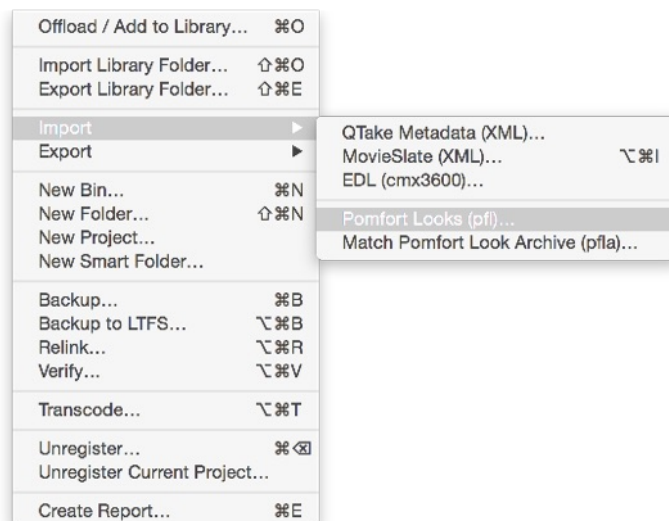


Figure 3: Import the .pfl file into Silverstack.

An open dialog shows up. Navigate to the previously saved .pfl file from LiveGrade:

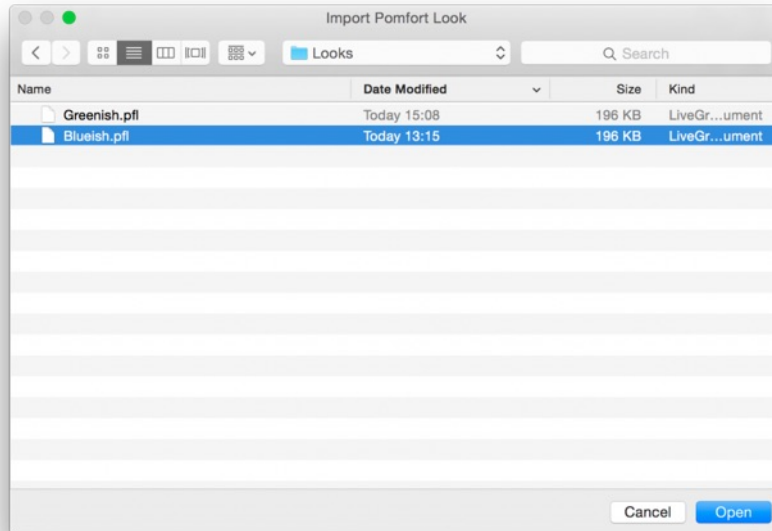


Figure 4: Open dialog for Pomfort Looks

Make sure that Silverstack's Look Library in the right info bar is shown (for example toggle the right bar from the toolbar). Learn how to use the Look Library in Silverstack from the article [The Silverstack Look Library](#). Go to the Look tab:

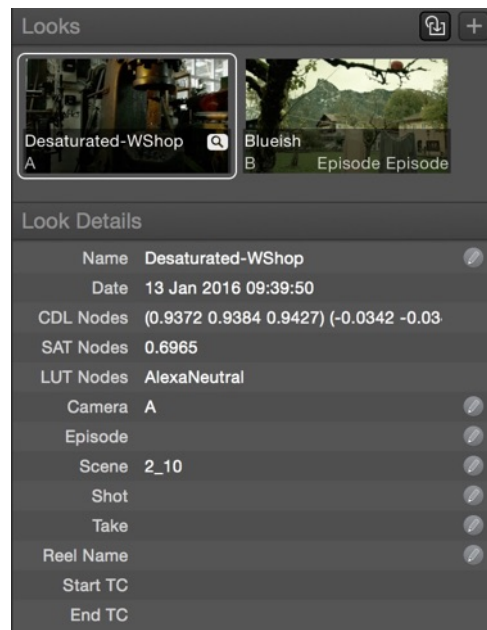


Figure 5: The Looks section with the imported "Blueish"

The look from LiveGrade will appear in the "Looks" section containing:

- Thumbnail
- Look name
- Metadata

The settings of the grading nodes reflect those of the look in LiveGrade. After applying the look to the desired clip you will be able to modify it in Silverstack from the point where you left off in LiveGrade.

To learn more about the grade controls in Silverstack please refer to the article [Grading Controls in Silverstack 5](#).

Exporting a Look Archive from LiveGrade

A Look Archive can contain one or multiple looks along with all the further metadata acquired in LiveGrade Pro.

To export a Look Archive put all the desired looks into one folder in the LiveGrade Look Library. Perform a right click on that folder and choose “Export Look Archive” from the context menu:

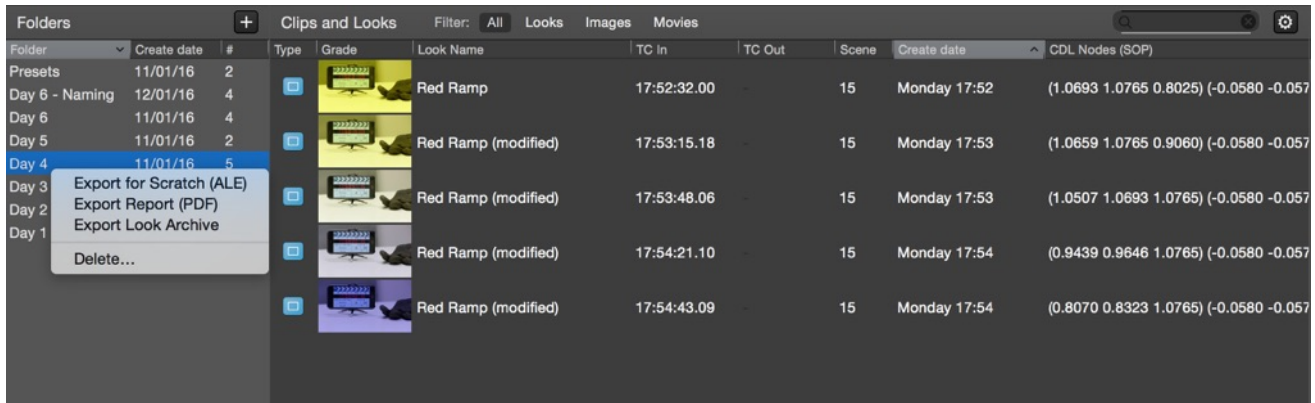


Figure 6: Exporting a Look Archive from LiveGrade Pro

Save the resulting .pfla (Pomfort Look Archive) file to the desired destination.

Importing a Look Archive into Silverstack

Go to the looks tab in the Right Bar of Silverstack. In the Look Library perform a secondary click (right click)

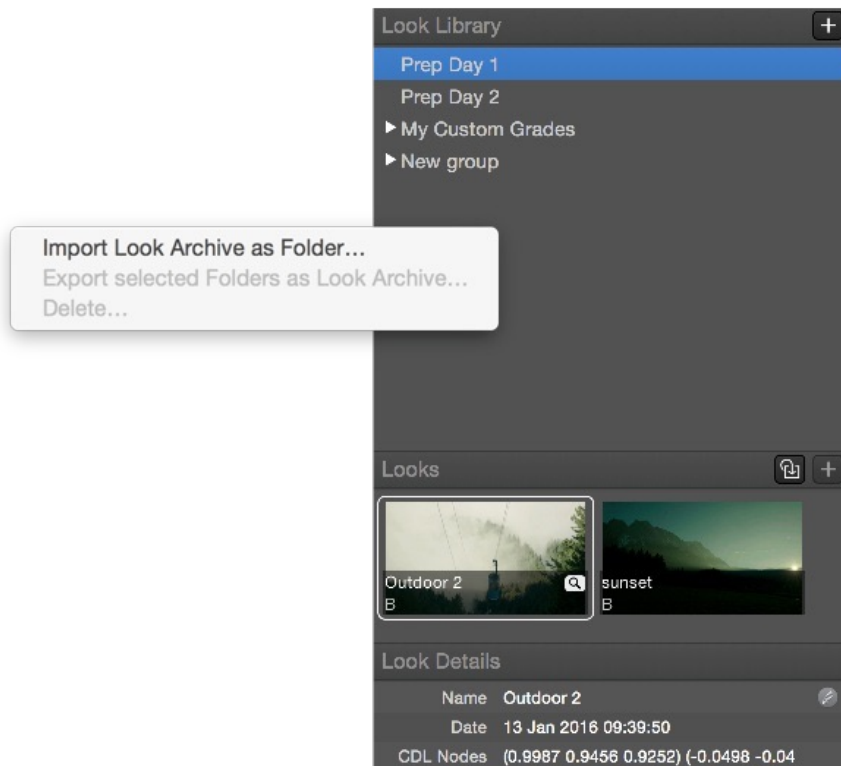


Figure 7: Importing a Look Archive as a folder.

Select the desired .pfla (Pomfort Look Archive) file and click. The Looks from the Archive will then be available in the newly created folders in the Silverstack Look Library.

Import metadata via MovieSlate

Introduction

When importing metadata via MovieSlate XML you can use various methods to match the clips coming from MovieSlate with your offloaded Assets:

- Timecode

- File Name
- Creation Date

Timecode Mode

This mode is pretty straight forward, it will compare the timecode of your assets and look for the corresponding values in the imported MovieSlate file. If the timecode of MovieSlate is synced with the camera each asset automatically matches with a clip from the MovieSlate XML. Matching by timecode also offers the possibility to automatically set the in-point to the slate frame.

File Name Mode

The File Name mode works literally and compares the exact filenames of your offloaded assets with the clips from the imported MovieSlate XML. Even the smallest disparity will force Silverstack not to match the Assets with the MovieSlate metadata.

Creation Date

This mode matches the creation date of your assets with the creation date of your MovieSlate clip metadata. This mode is working with approximation. You have a “Tolerance” slider which can help you to adjust the time difference between the camera and MovieSlate clock. You have a range from 1sec up to two minutes. This method is fuzzy and a high tolerance can lead to misinterpretations.

Further articles:

[Step-by-Step Tutorial: How to import via Filename Mode](#)

[Step-by-Step Tutorial: How to import via Timecode & Creation Date Mode](#)



Figure 1: “Movie Slate Import Wizard, showing 5 matched clips”

Transferring Clips and Metadata to Adobe Premiere Pro

Silverstack can create an .xml file compatible with Adobe Premiere Pro to transfer clips and clip metadata to the editing tool.

Exporting an Adobe Premiere Pro XML from Silverstack

The export option can be accessed from the “Export” button in the toolbar:

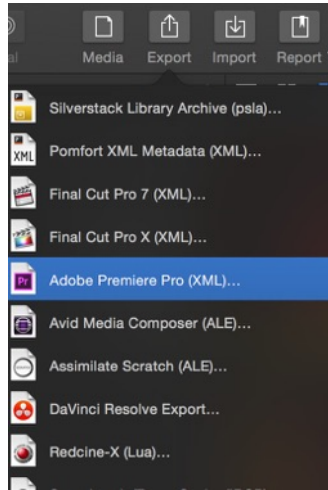


Fig. 1: The export menu

After the source selection step you can define content and format options for the exported XML:

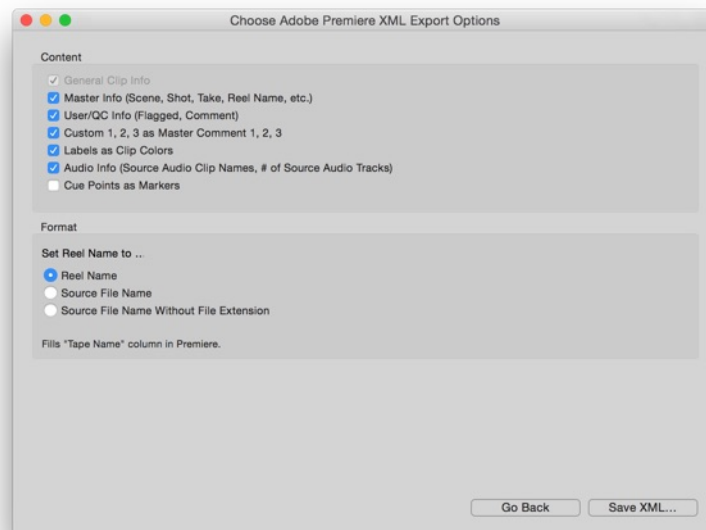


Fig. 2: Content and format option for the XML export

- **Content:**
 - **General Clip Info:** Contains the basic information needed to transfer clips (file paths, etc.)
 - **Master Info:** Contains Scene Shot Take info as well as the Reel Name.
 - Scene in Silverstack maps to “Scene” column in Premiere Pro
 - Shot and Take in Silverstack map to the “Shot” column in Premiere Pro in the format “Shot – Take”
 - **User/QC Info:** Contains flag/circled info as well as Comments (maps to “Description” column in Premiere Pro)
 - **General clip settings as Master Comment 1:** Maps general clip settings (e.g. InformationSensorFps, ShutterAngle, WhiteBalance, ExposureIndexAsa, ColorGamma) to the Master Comment 1 column in Premiere Pro
 - **Tags as Master Comment 2:** Maps the tags in Silverstack to the master comments 2 in Premiere Pro.
 - **Custom 1, 2 as Master Comment 3,4 :** Maps the custom comment fields 1 and 2 in Silverstack to the master comments 3 and 4 in Premiere Pro
 - **Labels as Clip Colors:** Maps the labels in Silverstack to clip colors in Premiere Pro
 - **Audio Info:** Takes over the Source Audio Clip Names column and the # of Source Audio Tracks Info to Clip Comment A and Clip Comment B in Premiere.
 - **Cue Points as Markers:** Maps the cue points in Silverstack to the markers in Adobe Premiere Pro.
- **Format:**
 - Sets the Reel Name to
 - **Reel Name:** Sets the Reel Name of the XML as specified in the Silverstack “Reel Name” metadata

field

- **Source File Name:** Sets the Reel Name of the XML to the source file name of the clip in Silverstack (e.g. A003C012_160205_R2VJ.mov)
- **Source File Name Without Extension:** Sets the Reel Name of the XML to the source file name without extension (e.g. A003C012_160205_R2VJ)

In Premiere Pro the Reel Name of the XML will be taken over to the Tape Name column.

After defining the settings click **“Save XML...”** to export the Adobe Premiere Pro XML.

Creating Synced Sequences in Premiere with Audio Sync Information from Silverstack XT or Silverstack Lab

Overview and Use Cases

Silverstack can provide information about external audio clips that have been synced to Adobe Premiere to create synced sequences with correctly aligned video and audio tracks.

This feature helps e.g. to implement workflows where audio clips are not available before transcoding and are synced to the transcoded clips at the end of the day. Right after automatic audio sync the xml with audio sync information can be exported and provides synced sequences without transcoding again.

Another use case could be bringing camera native ProRes files into edit with synced audio from Silverstack.

How To

After syncing external audio clips with the video clips open the Premiere Export:

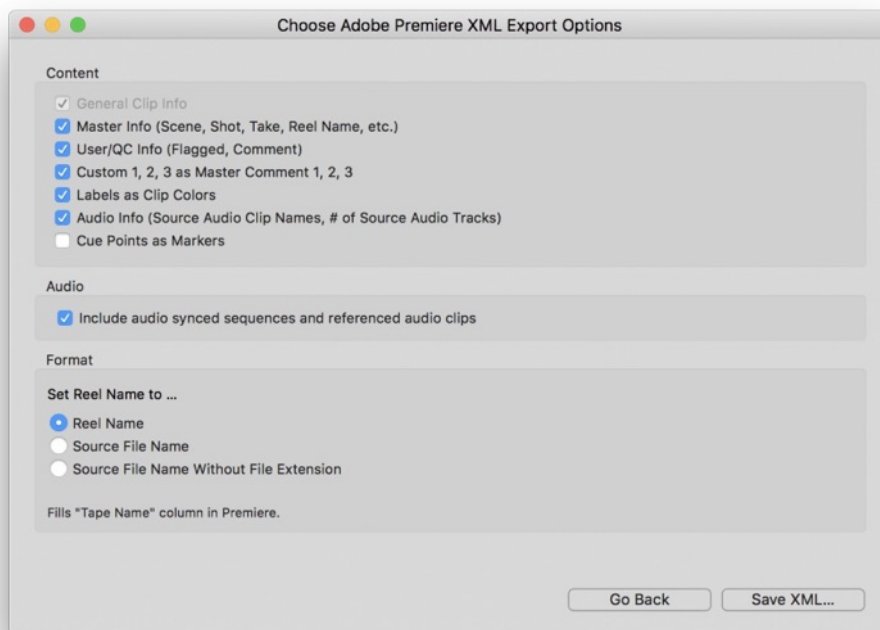
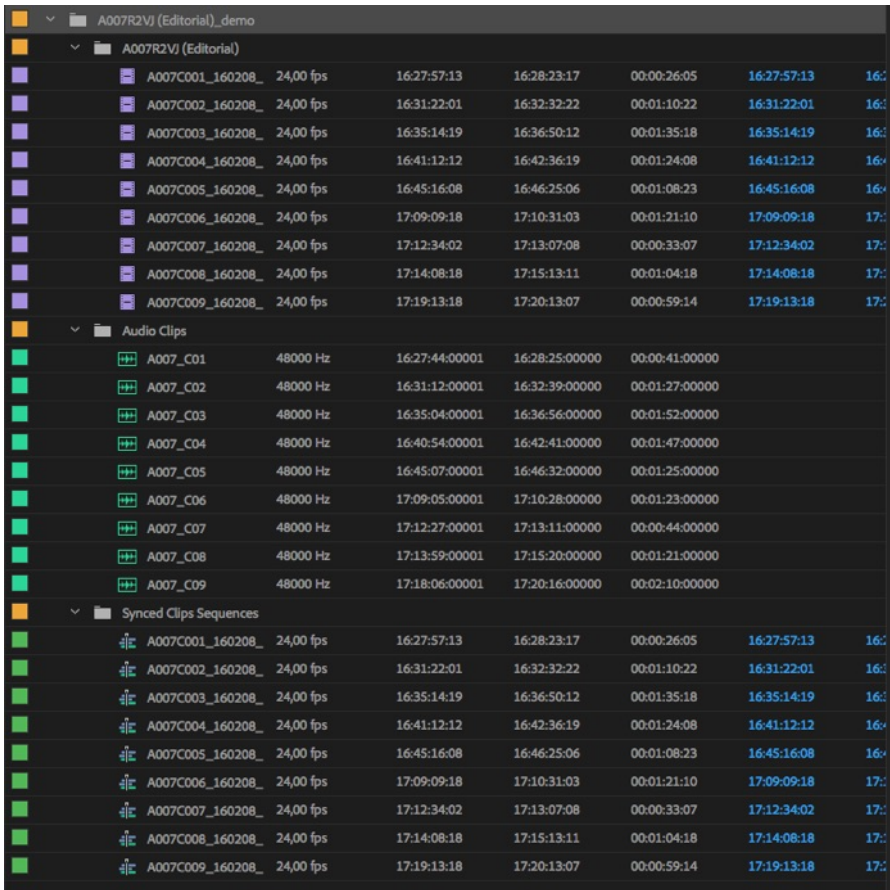


Fig. 3: The Audio option in the Adobe Premiere XML Export

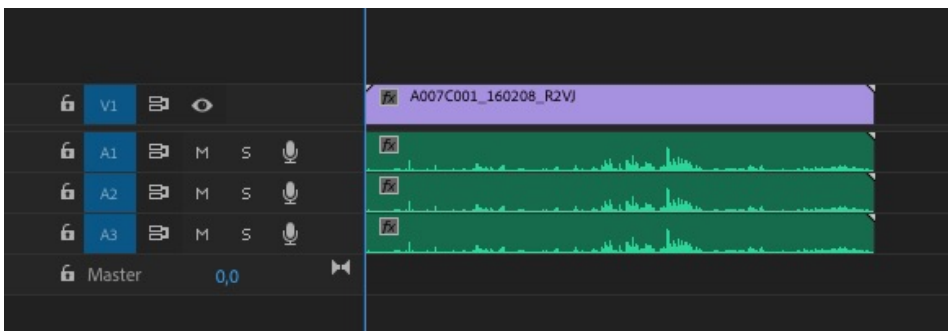
Make sure to mark the checkbox **“Include audio synced sequences and referenced audio clips”**. This will equip the XML with the necessary information.

After opening the XML in Premiere Pro you will obtain the following folders:



- One folder that contains all the video clips (e.g. A007R2VJ (Editorial), see fig. 4)
- One folder that contains all the audio clips synced with the video clips (“Audio Clips” in fig. 4)
- One folder that contains the “**Synced Clips Sequences**”

The “**Synced Clips Sequences**” are Adobe Premiere Pro editing sequences that have the audio in sync position to the clips:



They can now be used for editing.

To learn more about audio sync with external audio clips in Silverstack Lab and Silverstack XT please take a look at the articles [How To Automatically Sync Audio Based on Timecode in Silverstack Lab](#) and [How to Manually Sync Audio in Silverstack XT and Silverstack Lab](#).

Mention the “special setting” for editing ?

How to Open an XML in Premiere Pro

After saving the XML from Silverstack you can go ahead and open the XML file in Premiere Pro.

Open Premiere Pro. Go to the “**File**” menu and choose “**Open Project...**“. Choose the previously exported XML file and click “**Open**”.

The XML will import as a bin with all exported clips in Premiere:

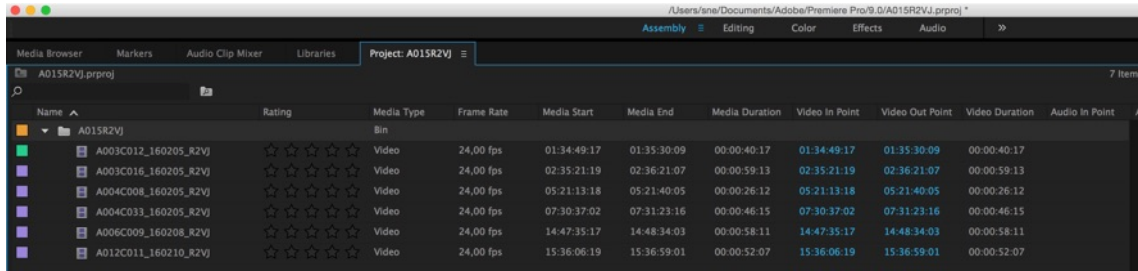


Fig. 4: The imported XML folder in Premiere Pro

ZEISS CP.3 XD Lens Correction: Workflow Overview

The CP.3 eXtended data (CP.3 XD) lenses by ZEISS provide extended metadata for digitally correcting images concerning optical shading and distortion deviations. Pomfort's applications LiveGrade Pro and Silverstack provide functionality to leverage this extended metadata for **on-set preview (LiveGrade Pro)** and **data management (Silverstack)**.

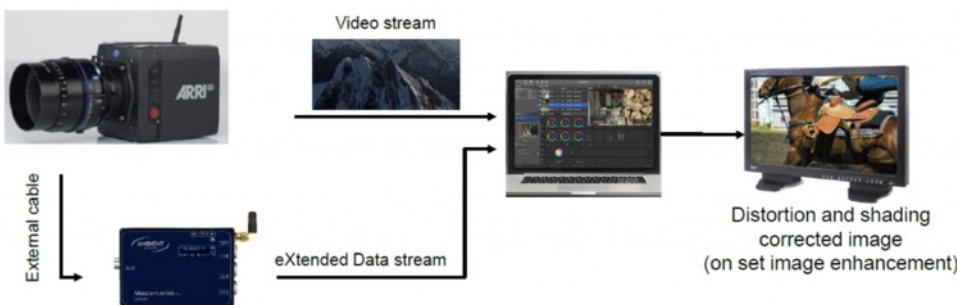
Use of eXtended Data in LiveGrade Pro and Silverstack XT / Silverstack Lab

The ZEISS eXtended data can be used for:

- **On-set preview with LiveGrade Pro**
- **Extraction of recorded lens data** and consolidation with clips in **Silverstack XT and Silverstack Lab**

The schematic overviews give you an idea of the on-set preview and lens data extraction use cases:

On-Set Preview of Lens Correction with LiveGrade Pro



LiveGrade Pro is able to receive realtime lens correction information from a ZEISS CP.3 XD lens that is connected to an Ambient MasterLockit Plus.

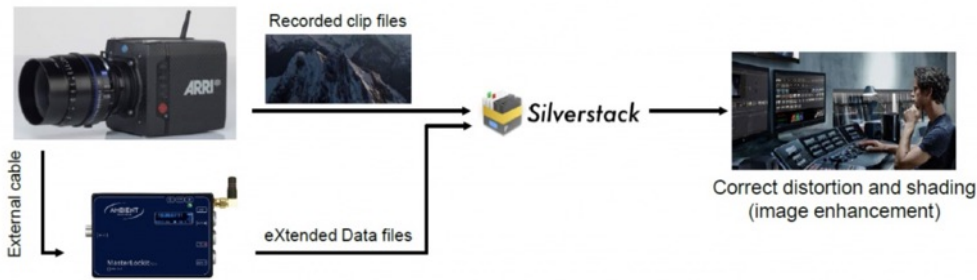
Functionality

The live signal of the camera is connected to a hardware capture device that is connected via Thunderbolt to the Mac running LiveGrade Pro in order to receive a live image in the application. Read the articles [HD-SDI Setup for LiveGrade](#) as well as [SDI Recording and Frame Grabs](#) for more information about live image capturing in LiveGrade.

LiveGrade Pro connects via Wifi or a tethered network connection to the MasterLockit Plus that receives live lens correction data from the ZEISS CP.3 XD lens. The live lens correction data can be applied to the captured live signal from the camera.

Learn more about the process in LiveGrade Pro in the article [ZEISS CP.3 XD Lens Correction in LiveGrade Pro](#) that offers a detailed description of the features.

Extraction and Display of Recorded Lens Data in Silverstack



Silverstack XT and Silverstack Lab allow to import, display and export lens correction data from ZEISS CP.3 XD lenses.

Functionality

The lens correction data is recorded in the MasterLockit Plus. Clips offloaded in Silverstack hold timecode information that matches the recorded lens data from the CP.3 XD lens. Silverstack can connect to the MasterLockit Plus via Wifi or a tethered network connection to receive the recorded lens data and to consolidate it with the clips in the Silverstack database. After that step, the lens correction can be reviewed in the Silverstack player.

Furthermore the correction data can be exported into ZLCFs (ZEISS Lens Correction Files) for consecutive production steps as e.g. the use in the “**ZEISS Lens Correction**” plugin ZEISS provides for Blackmagic Design’s DaVinci Resolve.

Learn more about the process in Silverstack in the article [ZEISS CP.3 XD Lens Correction in Silverstack](#) that offers a detailed description of the functionalities.

Hardware Overview

ZEISS eXtended data can be recorded via an external LEMO compatible plug onto an Ambient MasterLockit Plus:

Recording ZEISS eXtended Data via external LEMO® compatible plug



* LEMO is a registered trademark of INTERLEMO HOLDING S.A.

Exemplary Setup Using an ARRI Alexa Mini



1. Connect the ZEISS CP.3 XD lens via the metadata cable to the grey ACN port of the MasterLockit Plus
2. Connect the timecode cable from the TC port of the MasterLockit Plus to the TC port of the camera

Hardware Components for LiveGrade Pro Workflow

The following hardware components are involved:

- ZEISS CP.3 XD lens
- Camera
- Ambient MasterLockit Plus
- Cables
 - Lens data cable
 - Power cables
 - Metadata cables
 - Timecode cables
- Apple Mac / Macbook (Pro)
- Blackmagic Design UltraStudio Mini Recorder or similar recording device
 - Thunderbolt cable
 - HDMI or SDI cable
- Software
 - Pomfort LiveGrade Pro

Hardware Components for Silverstack Workflow

The following hardware components are involved:

- ZEISS CP.3 XD lens
- Camera
- Ambient MasterLockit Plus
- Cables
 - Lens data cable
 - Power cables
 - Metadata cables

- Timecode cables
- Apple Mac / Macbook (Pro)
- Software
 - Pomfort Silverstack XT or Silverstack Lab

Additional Information

What is eXtended Data?

ZEISS eXtended Data is a newly developed lens data technology. It is based on the Cooke /i technology and extends the functionality with additional information about the lens characteristics such as distortion and shading. The characteristics are calculated in real time for every focal point and effective T-stop. The lens data are transferred either directly to camera through 4-pin Cooke /i interface (PL mount) and / or to any supported equipment via external cable.

ZEISS CP.3 XD Lens Correction in Silverstack

Silverstack XT and Silverstack Lab allow to import, display and export dynamic lens correction data from ZEISS CP.3 XD lenses. In particular this involves shading and distortion correction of the recorded image.

Overview

The following steps can be executed in Silverstack:

- **Import lens correction data** directly from Ambient Master Lockit Plus to consolidate it with the according clips in the library.
- **Display and review shading and distortion correction** via the ZEISS lens correction panel in Silverstack.
- **Export .ZLCF lens correction files** to transport lens correction data to consecutive applications such as DaVinci Resolve.

To learn more about the general workflow please visit the article [ZEISS CP.3 XD Lens Correction: Workflow Overview](#).

Prior to importing lens correction data, clips have been recorded in the camera with the MasterLockit Plus attached to camera and lens.

Import Lens Correction Data from Ambient Master Lockit Plus

The lens correction data saved in the MasterLockit Plus holds a timecode relation to the clips recorded in the camera. The lens correction data be pulled via a network connection from the MasterLockit Plus and then be consolidated with the clips via timecode

1. Offload the clips that have been recorded with lens correction data into the Silverstack Library
2. Open the Import wizard through the **“Import”** button in the toolbar:

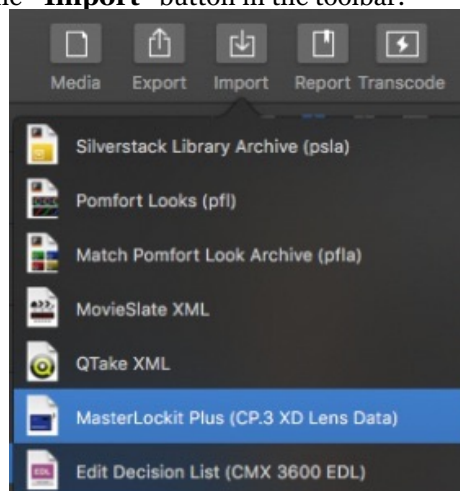


Fig. 1: Choose MasterLockit Plus (CP.3XD Lens Data) from the Import menu

3. The lens data import wizard opens. Enter the MasterLockit Plus IP Address to the **“Master Lockit Address”** address field to connect to the Master Lockit Plus. After a successful connection the lens data events have been connected to the clips:

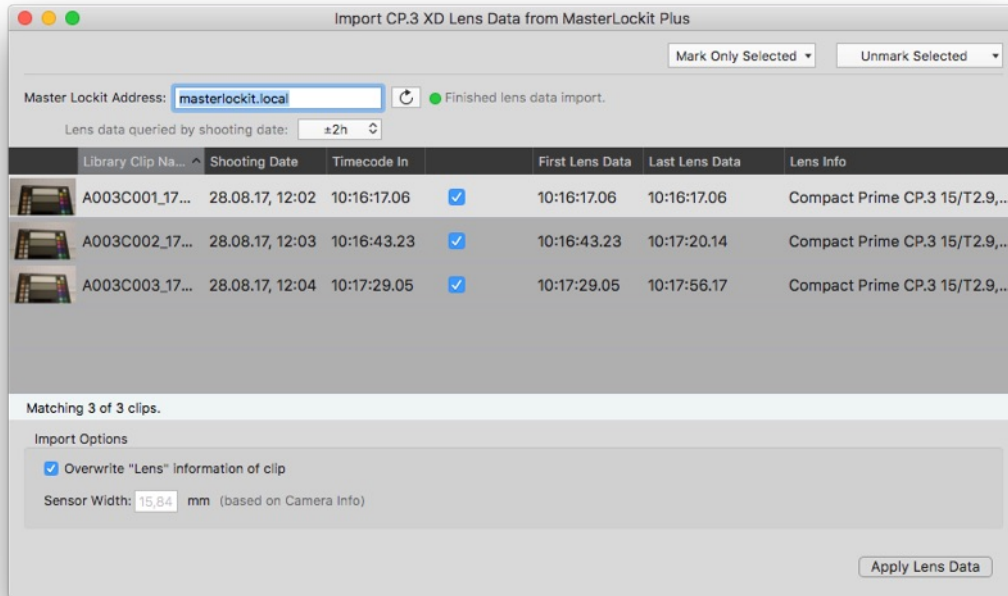


Fig.2: The lens data import wizard

Be aware that only clips that do not hold lens correction data will be displayed in the import wizard. Learn how to remove lens correction data in the sections below.

4. Options:

- **Lens data queried by shooting date:** The lens correction data saved in the MasterLockit Plus will be queried for a certain time range around the shooting date of the clips. You can set a wider time frame for the query with this dropdown. By setting the time and date of the camera correctly you can initially make sure that the shooting date and time of the clips matches the timestamp of the lens correction data.
- **Import Options**
 - **Overwrite “Lens” information of clip:** The lens info coming from the MasterLockit Plus can be taken over to the “Lens” metadata field in Silverstack.
 - **Sensor width:** The sensor width is required to be able to display the lens corrections. Silverstack can determine (look up) the sensor width based on the following metadata of the clips (displayed as columns in the clips table):
 - Camera manufacturer
 - Camera model
 - Sensor model
 - Format description (only in cases where the above does not provide a unique sensor width)
 - Resolution

There are **cases when an automatic detection is not possible** (most probable caused by the lack of metadata of the clips). In this case you have to specify the sensor width manually to be applied to all clips where an automatic determination was not possible. You can change the sensor width later in the General Info (right sidebar) under “ZEISS Lens Correction” (see details below).

5. To take over the lens correction data to the clips click the “**Apply Lens Data**” button.

Display and Review Shading and Distortion Correction

The clips now hold lens correction data. The “**ZEISS Lens Correction**” entry in the General Info shows the enabled correction data:

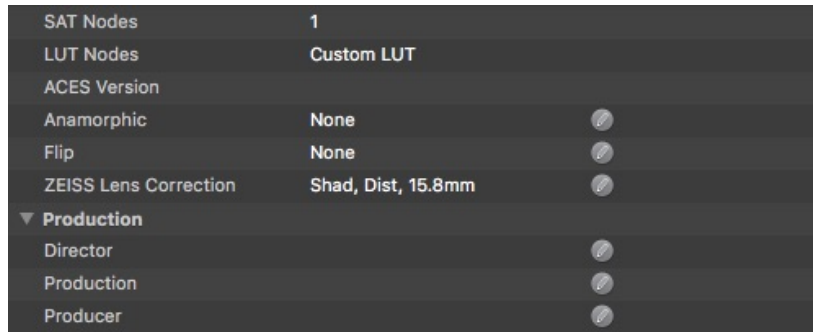


Fig. 3: ZEISS Lens Correction entry in the General Info

Click the pen icon to open the ZEISS lens correction popover:

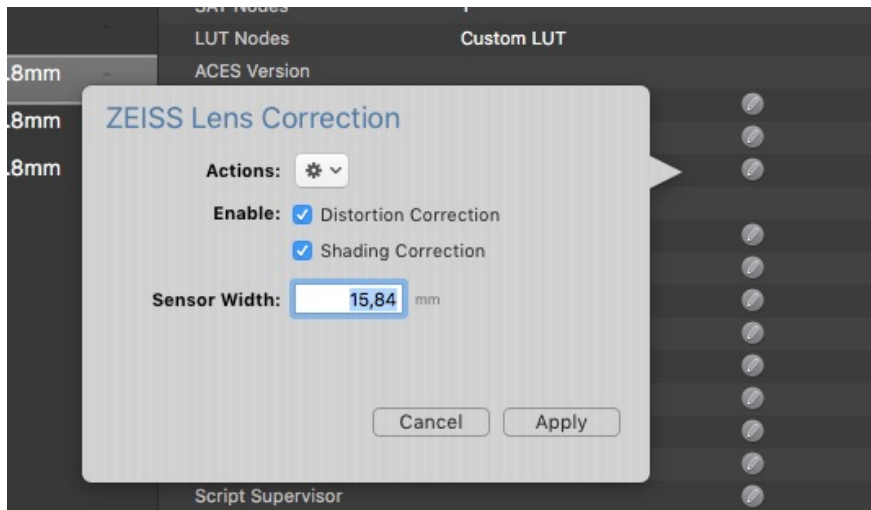


Fig.4: The ZEISS Lens Correction Popover in the General Info

- The ZEISS Lens Correction Popover in the General info allows for
 - two different “**Actions**”:
 - removal of lens data (for single and multiple clips)
 - import of ZLCF file (only if no lens correction data is available for the clip)
 - multi edit of shading and distortion correction activation
 - multi edit of sensor width

The ZEISS lens correction panel can be opened from the “**Look**” section of the main menu:

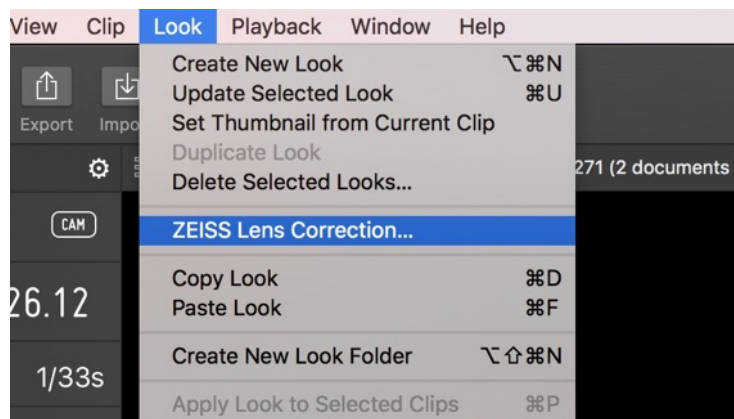


Fig.5: Open the ZEISS lens correction panel

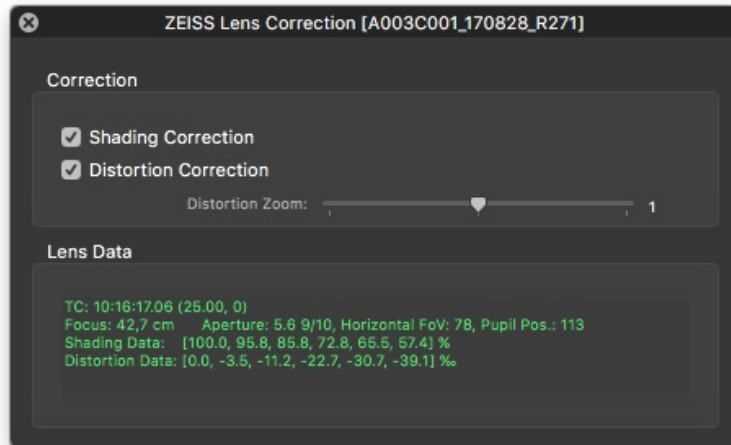
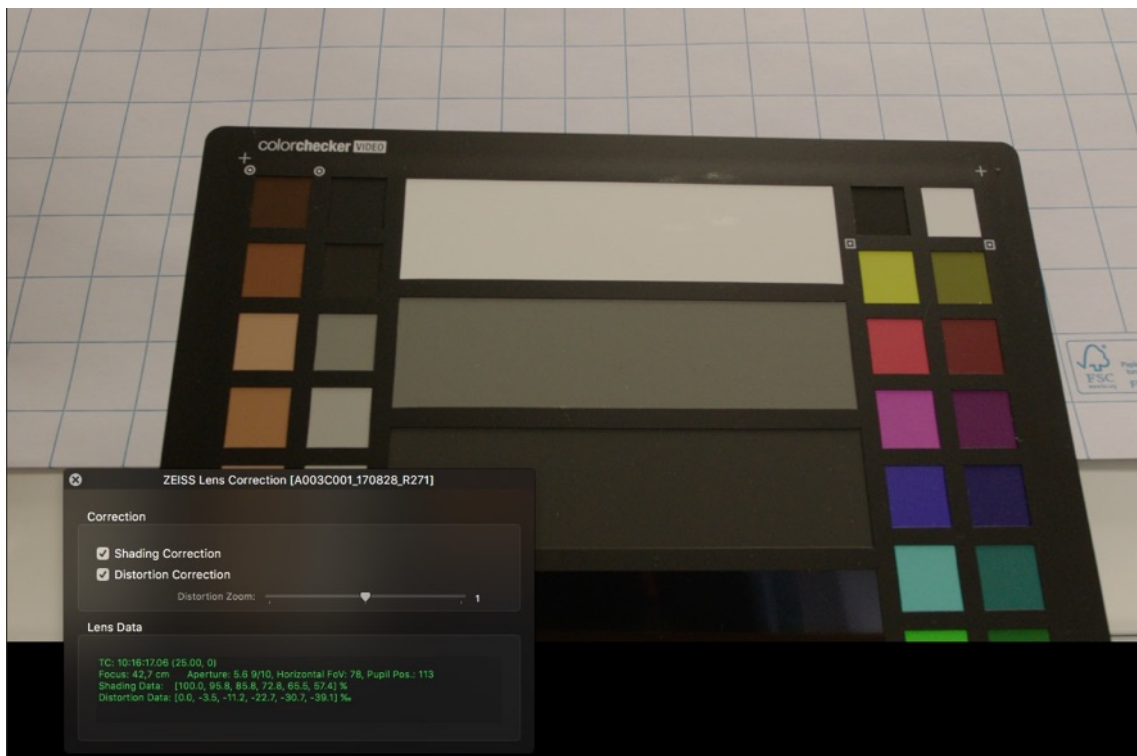


Fig. 6: The ZEISS lens correction panel

- The ZEISS Lens Correction panel allows for
 - separate activation and deactivation of shading and distortion correction for display in player
 - entry of distortion zoom factor
 - dynamic lens data review per clip

The lens correction data will be displayed in the Silverstack player:



To export the status of the lens correction data into a clips report please activate the **“ZEISS Lens Correction”** column in the table view:

Preview	Name	ZEISS Lens Correction
	A003C001_170828_R271	Shad, Dist, 15.8mm
	A003C002_170828_R271	Shad, Dist, 15.8mm
	A003C003_170828_R271	Shad, Dist, 15.8mm

Fig. 8: The ZEISS lens correction column in the clips table view

Export ZEISS Lens Correction Files

The acquired lens correction data can now be exported per clip for consecutive productions steps. To open the export wizard go to the “**Export**” button menu in the toolbar and select the “**ZEISS Lens Correction Files (ZLCF)**” entry from the list:

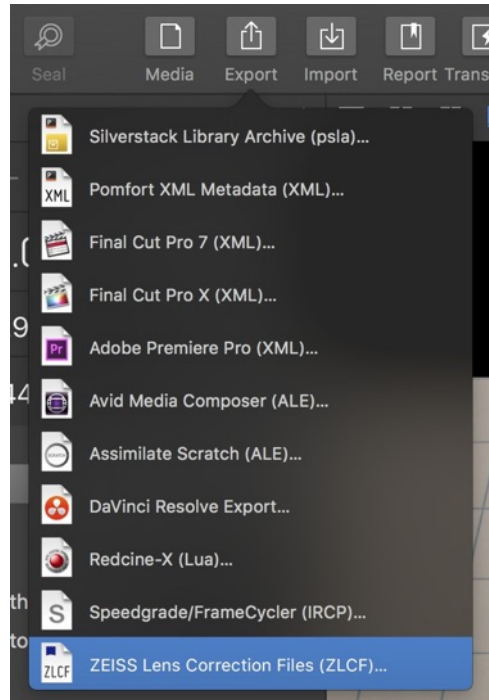


Fig. 9: Open the ZLCF export wizard

This opens the ZLCF export wizard:

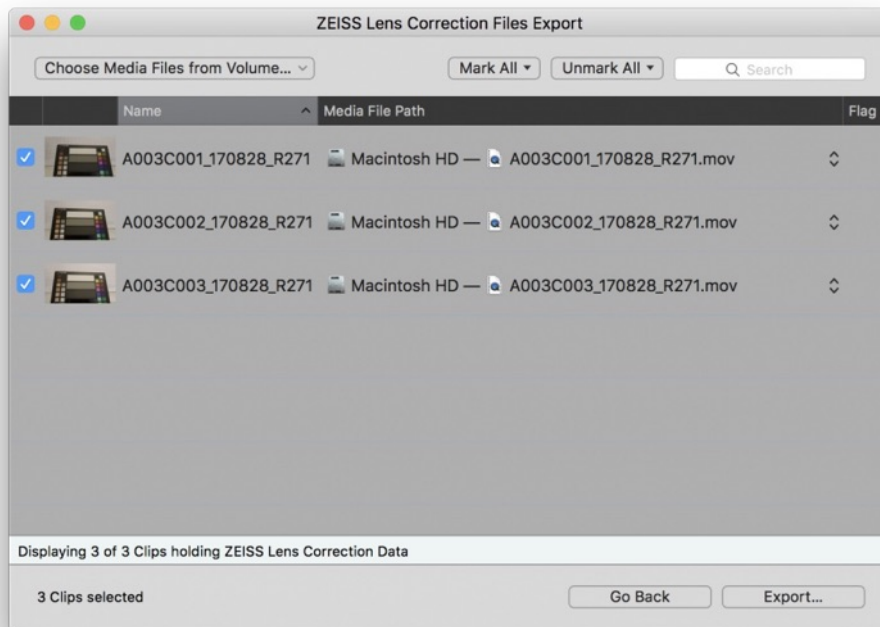


Fig. 10: The ZLCF export wizard

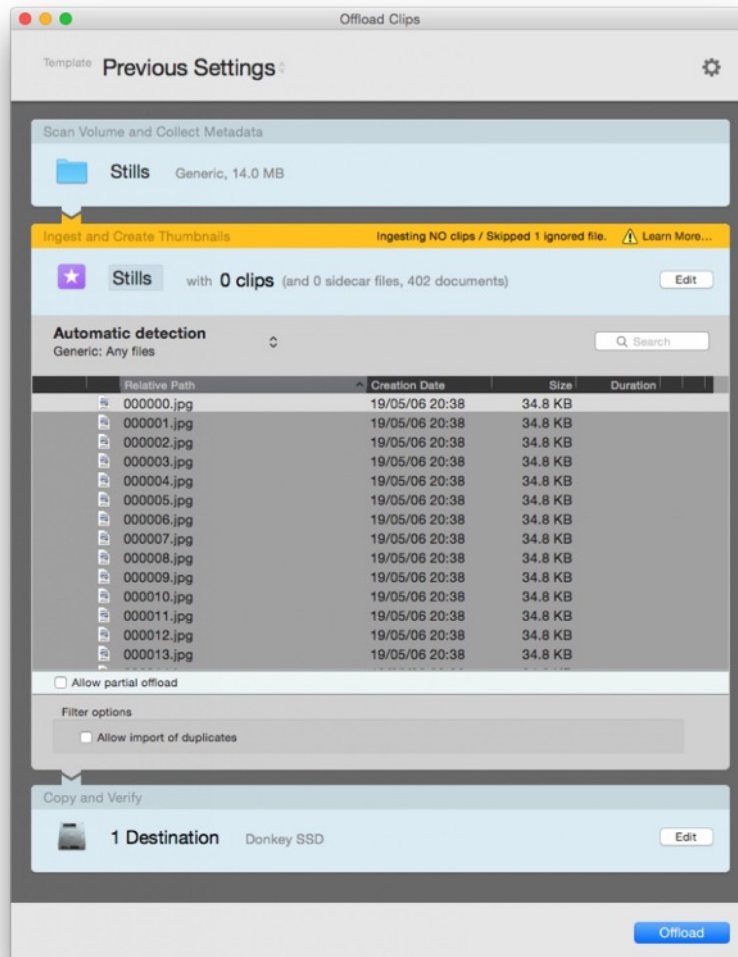
Please be aware that the wizard only shows clips that hold lens correction data. All others will not be shown and are reflected in the status line at the bottom.

Per clip one .zlc (ZEISS lens correction file) will be exported. After clicking “**Export...**” the wizard points you to select a folder for the zlc files to be placed.

Camera Formats

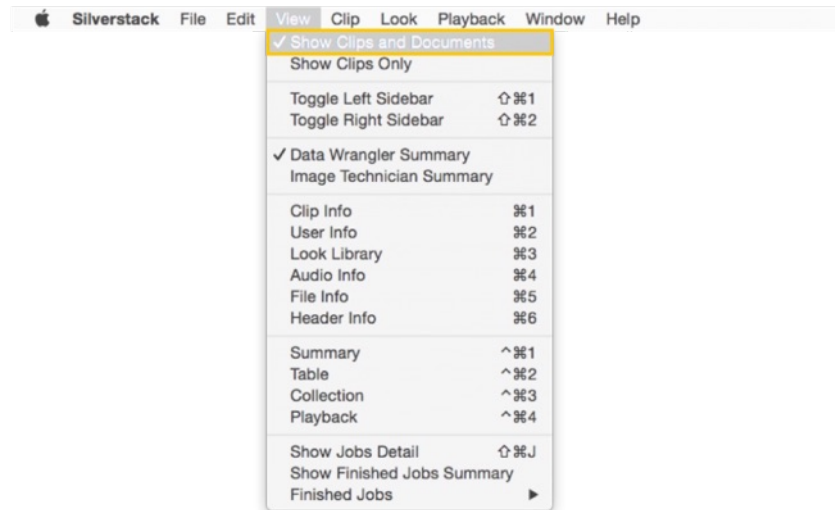
Generic file formats

Offloading all kinds of assets is possible with Silverstack's proven copy features, which offer secured backups with checksum verification. The Offload wizard scans the source folder and automatically selects the «Generic Copy» mode when non-supported files are detected. Not all media files are recognized as playable Clips by Silverstack, besides the supported advanced media formats that can be found in the article [Assets in Silverstack](#).



Offloading wizard

You will get a yellow notification reading «Ingesting NO clips» in the offload wizard in case Silverstack didn't recognize the scanned files as a supported advanced camera format. However, you can go ahead and proceed to offload and check sum the files. Once the process is finished, the files will be registered in the Library, where you can continue to work with them. Just make sure to enable «Show Clips and Documents» in the View menu:



View menu

ARRI ALEXA and AMIRA Looks in Silverstack

Silverstack can playback and transcode ProRes clips recorded with ARRI ALEXA and AMIRA cameras with the looks applied on set. This feature lets DITs check the Log-C footage in real time with the final look and feel without the need of transcoding.

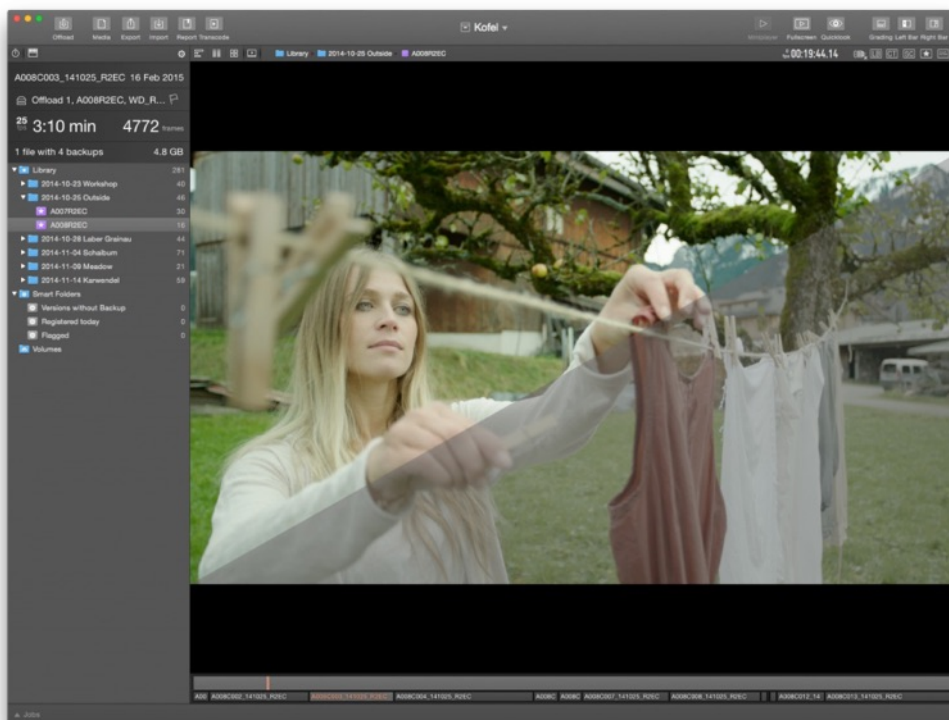


figure 1: AMIRA look application on and off

In order to use this functionality, [ALEXA Looks](#) and [AMIRA Looks](#) have to be applied in the camera before recording. Then the camera will write color metadata into the QuickTime ProRes clips. Once the clips have been added to the library, Silverstack will read this metadata from the file and apply the color changes along with the standard Rec.709 conversion by default. After the clips have been checked for quality, Silverstack will let you transcode them to a lighter codec with the same look applied.

This feature is active by default, but it can be disabled through Silverstack's Preferences menu, by setting the «Look Sorce» to None:

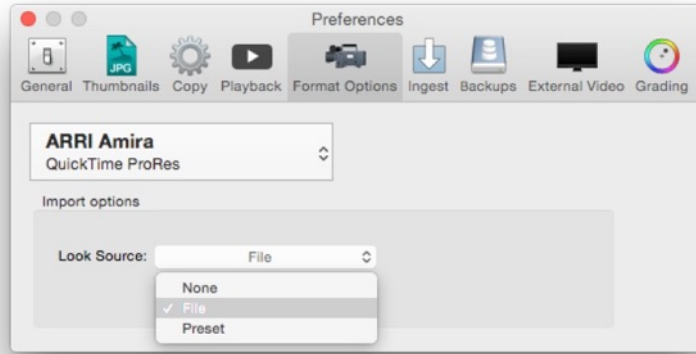


figure 2: visual controls preferences menu

Even if the look application is disabled, the footage can be displayed with the standard Log-C to Rec.709 conversion if you select «Preset» and choose one of the Alexa or Amira LUTs.

Troubleshooting

Application Preferences

Many general settings for Silverstack can be changed within the Application preferences and by doing so, working with Silverstack may become even easier to fit your workflow.

You get to the preferences menu by selecting “*Preferences...*” in the “*Silverstack*” menu. The window that opens up contains following sections which will be described detailed in this article:

- General
- Thumbnails
- Copy
- Playback
- Format Options
- Ingest
- Backups
- External Video
- Grading
- ACES

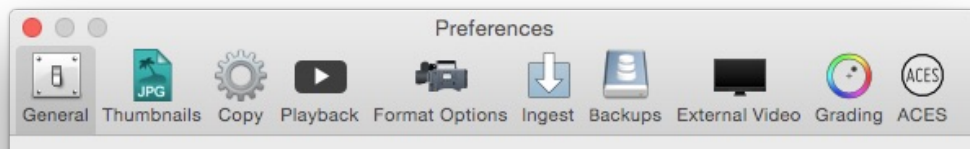


figure 1: Silvertack’s preferences

General

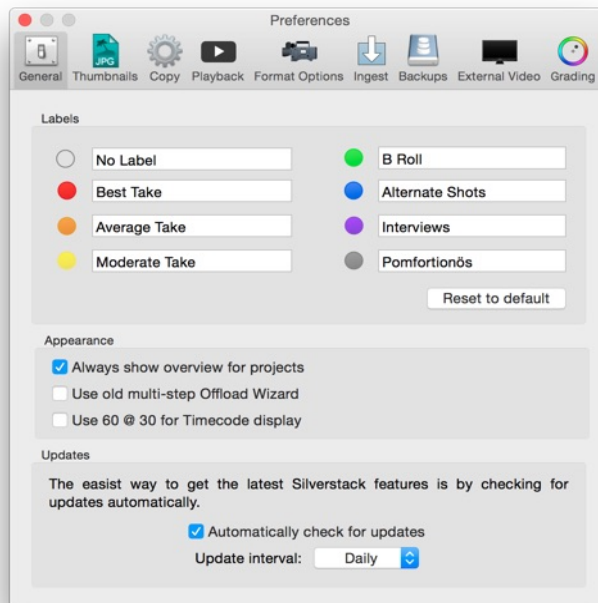


figure 2: General preferences

- You can also customize the color label naming.
- You can make decisions about appearance topics
- You can choose how often Silverstack should check for software updates.

Thumbnails

In the “*Thumbnails*” section you can choose the position in the clip from which the thumbnails are taken. In addition, you can disable the thumbnail creation on Offload jobs to speed up the process and create them

afterwards from the «Edit» menu. Still frame export options are also available from this panel.

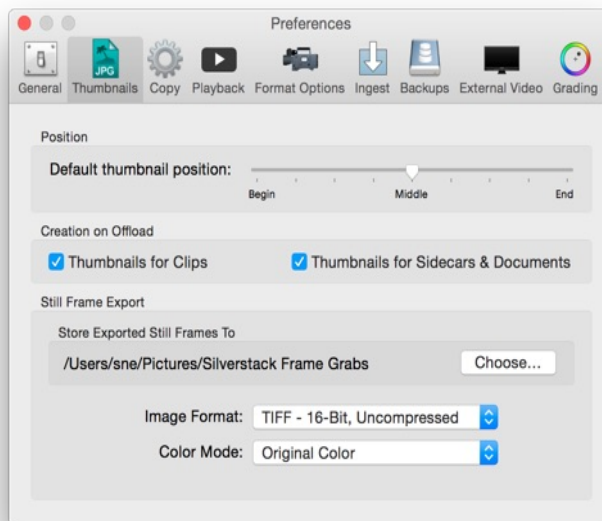


figure 3: Thumbnail preferences

It's also possible to export still frames from clips either with the Original Color, as shown in player or the two images at once. The process is described in the article [Still image export](#).

Copy

Here you can define all the settings related to the copy process.

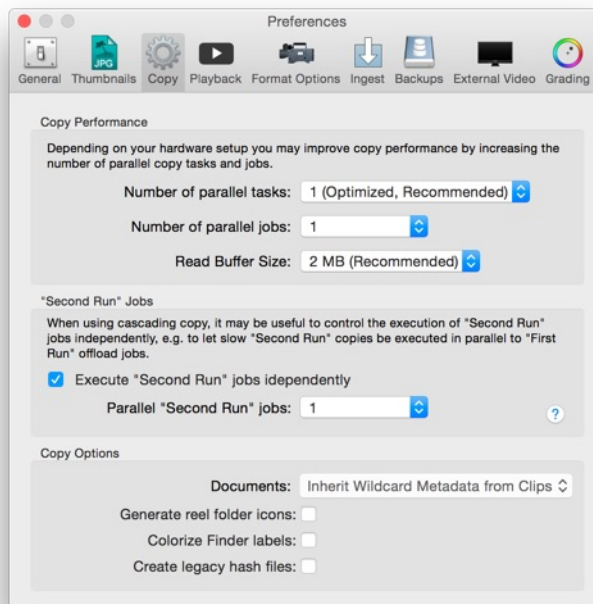


figure 4: Copy preferences

Playback

Here you can edit some settings for playback Besides setting the color in which black- and white-clipping regions of a video image are indicated, you can also set the range color and clipping and range unit.

In addition, it's possible to disable the automatic application of ALEXA and AMIRA Looks used while recording.

This way the footage will be displayed with the default Log-C to Rec.709 instead of the look.

In the “*Playback*” tab you can also select on which display the Playback Mode will be shown if you have more than one screen connected to your computer.

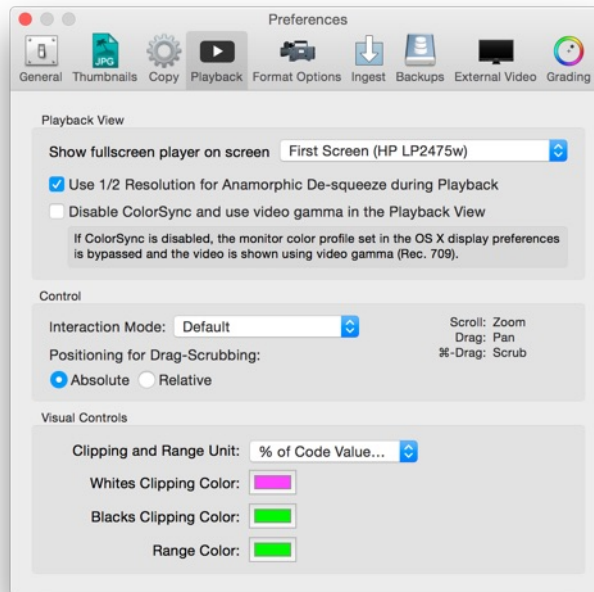


figure 5: Playback preferences

Format Options

Within this section you can change settings regarding different cameras you may use for importing video clips. You can set those attributes for following cameras/recorders: AJA KiPro and Atomos, ARRI Alexa, Sony F5/F55/F65 XAVC, Canon C300, GoPro Hero and Nikon, R3D and Canon DSLR.

The options that are available for defining the timecode are mostly the same for the different cameras. They are useful if you need a different timecode source than the one you got from your camera. So instead of the camera's timecode track you can use the Quicktime header create date or file create date. Most times this option is only necessary for the Canon DSLR and GoPRO Hero, not so much for the ARRI Alexa and AJA KiPro.

AJA KiPro and Atomos

- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).
- Furthermore you can let Silverstack extract informations about scene and take from the filenames by selecting the according checkbox.
- For the AJA KiPro Silverstack provides the opportunity to use the Alpha Append character of a clips name to assign the clip accordingly to a camera.

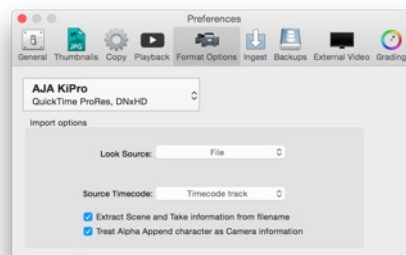


figure 6: format options for AJA KiPro

ARRI Alexa

- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).
- Silverstack provides the option to generate the timecode with different modes.

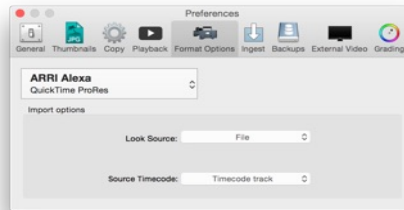


figure 7: format options for ARRI Alexa

Canon c300

- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).

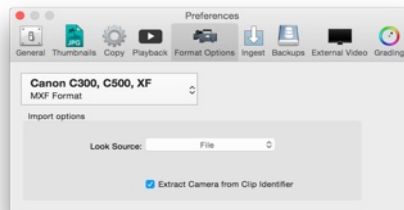


figure 8: format options for Canon C300

Canon DSLR

- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).
- The source timecode can be defined by the Thumbnail Image file, the Quicktime header create date and the file create date.
- By selecting the according checkbox Silverstack will also copy any THM sidecar files from your Canon camera.



figure 9: format options for Canon DSLR

GoPro Hero and Nikon

- For any GoPro Hero and Nikon camera you can set only the option which defines the source timecode either to Quicktime header create date or file create date.
- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).

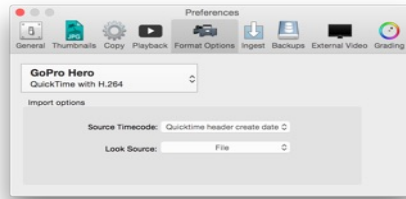


figure 10: format options for GoPro Hero

R3D

- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).
- The source timecode can be defined as absolute timecode, edge timecode, file create date or by user preference.
- Reel name generation mode.
- Use a Red Rocket card if available.

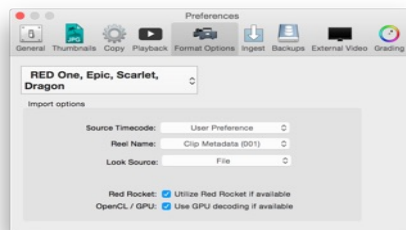
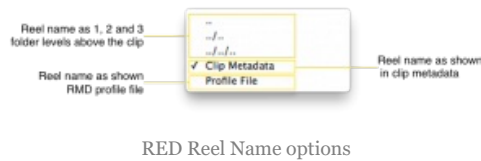


figure 11: format preferences for R3D clips



F5/F55/F65 XAVC

- You can set the Look source which will be preselected for the ingested material. Learn more about this feature in the article [Basic Color Control in Silverstack](#).

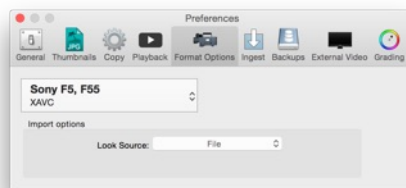


figure 12: format preferences for Sony F5/F55/F65 XAVC clips

Generic File Sequence

- Silverstack allows to import JPEG, TIFF and DPX image sequences as clips. You can Set the default playback speed in the Import Options menu:

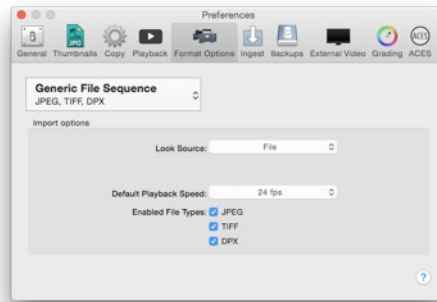


figure 12.1: Generic File Sequence preferences

Ingest

Silverstack scans the volumes from which you want to offload. In this tab you can select what kind of files or patterns should be ignored in the ingest process. You can add or delete different file types and patterns.

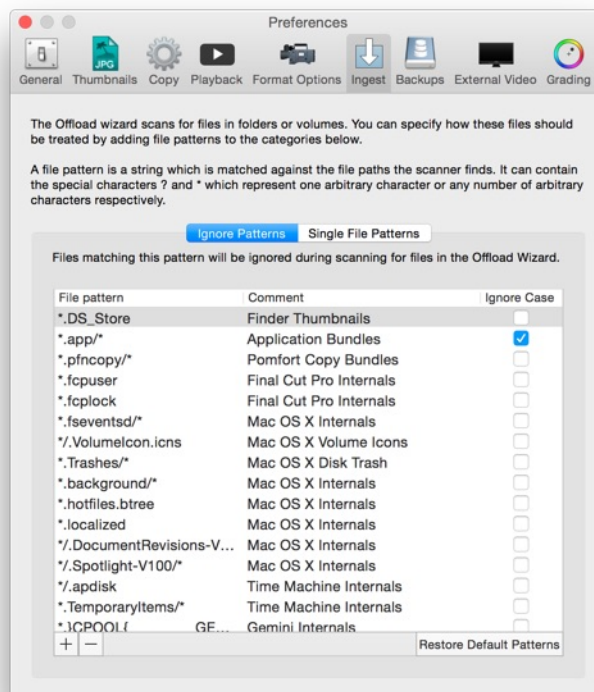


figure 13: ingest preferences

Backups

Here you can create and restore database backups of your current and past Silverstack states.

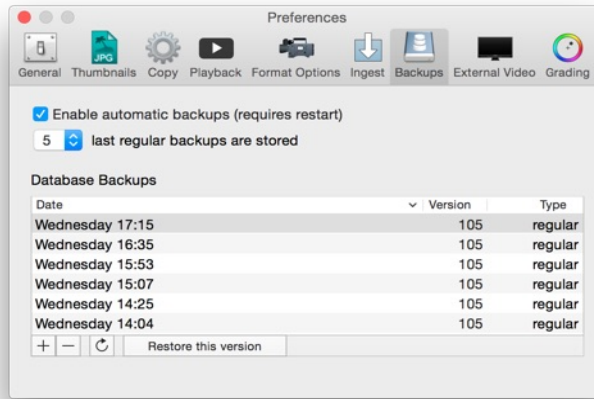


figure 14: library backups preferences

External Video

Here you can choose the settings for the external video output.

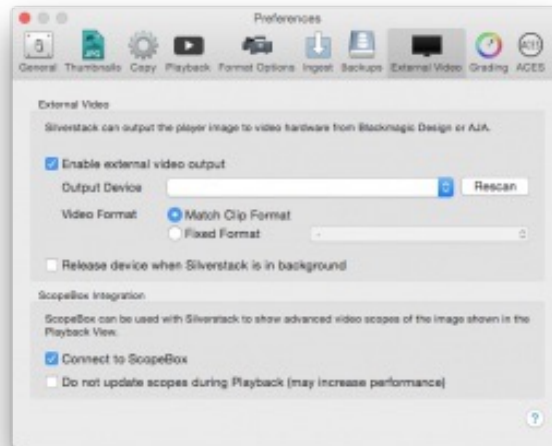


figure 15: external video out preferences

Silverstack comes with the option to output an HD-SDI signal via compliant hardware. Learn more about it in the article [HD-SDI output in Silverstack](#).

You can use ScopeBox by Divergent Media for software-based waveform and [video scopes for Silverstack's player](#).

Grading

These are the settings for the grading functionalities in Silverstack.

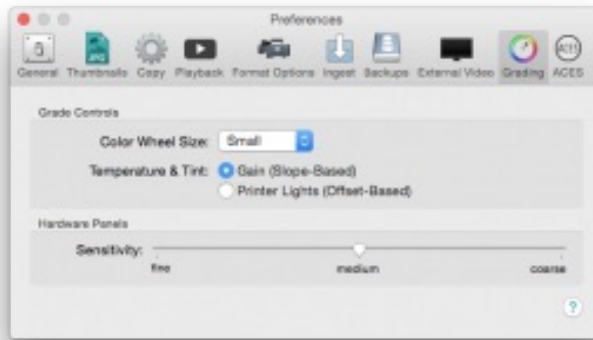


figure 16: grading preferences

Silverstack comes with grading functionalities and an integrated look library. Learn more about it from the articles [Grading Controls in Silverstack](#) and [The Silverstack Look Library](#).

ACES

These are the settings for the ACES grading mode functionalities in Silverstack:



figure 17: ACES grading mode preferences

Operating Systems and Requirements

Our software Silverstack requires an Apple Mac machine with macOS 10.12 or higher operating system. Since we are using the latest of macOS technologies, we are not planning to support earlier versions of macOS, neither will we port Silverstack to another operating system in the near future.

So to run Silverstack you need an Intel Mac with macOS 10.12 or higher (such as any current Mac available in the MacStore).



macOS 10.12 or higher

You can find a list of supported formats in the article [Assets in Silverstack](#). All formats with no specific detection will be handled as generic files. Please see the article [Generic File Formats](#) for more information.

For a realtime playback of your offloaded video files the usage of a fast hard drive as a SSD card is recommended.

If you have further question about supported hardware please let us know. If you would like to know more about [data performance](#) click [here](#). You might be interested in [this article](#) for improving your performance.

Reset Silverstack's Library and Preferences

In the unusual event of Silverstack not being able to launch, you will have to reset the preferences and delete Silverstack's library.

Warning: This can't be undone, deleting the library will delete all custom metadata, clip references and thumbnails. The actual clips won't be deleted.

Deleting Silverstack's library

To do so, close Silverstack and delete the folder **matching your Silverstack version** in your home directory:

- Quit Silverstack
- Rename the according folder in your home directory:
 - **For Silverstack 6:** `~/Library/Application Support/Pomfort/Silverstack6`
 - **For Silverstack Lab 6:** `~/Library/Application Support/Pomfort/SilverstackLab6`
 - **For Silverstack 5:** `~/Library/Application Support/Pomfort/Silverstack5`
 - **For Silverstack 4:** `~/Library/Application Support/Pomfort/Silverstack4`

The Library folder is hidden by default. You can open the Library folder in Finder when opening the "Go" menu and holding the "alt" key. You will see an extra entry "Library" in the "Go" menu. Choose this entry and a Finder window will open with the Library folder.

- Start Silverstack again, it will automatically create a new library.

Deleting Silverstack's preferences

- Quit Silverstack
- Create a copy/backup of the following file **matching your Silverstack version** (optional):
 - For Silverstack 6:** `~/Library/Preferences/com.pomfort.Silverstack6.plist`
 - For Silverstack Lab 6:** `~/Library/Preferences/com.pomfort.SilverstackLab6.plist`
 - For Silverstack 5:** `~/Library/Preferences/com.pomfort.Silverstack5.plist`
 - For Silverstack 4:** `~/Library/Preferences/com.pomfort.Silverstack4.plist`
- Open up the Terminal application (type terminal in your spotlight or navigate within the Utilities folder of your application folder)
- Type the following command in your terminal window **matching your Silverstack version**:
 - For Silverstack 6:** `defaults delete com.pomfort.Silverstack6`
 - For Silverstack Lab 6:** `defaults delete com.pomfort.SilverstackLab6`
 - For Silverstack 5:** `defaults delete com.pomfort.Silverstack5`
 - For Silverstack 4:** `defaults delete com.pomfort.Silverstack4`

Start Silverstack

Now Silverstack should start as usual with a fresh library. If you still experience issues, please contact our [support team](#).

The previous instructions are for Silverstack 6, Silverstack Lab 6, 5 and 4. If you are using Silverstack 3, please read the article [Silverstack 3: Reset Library and Preferences](#).

How do I migrate a license from one computer to another?

You can move a license of a Pomfort product from one computer to another. This may be useful if you move from an older Mac to a new model.

There are two activities involved:

- Unregistering the license from the old computer and
- registering the license on the new computer.

Please note, that you need an internet connection for the following steps.

1. Unregistering the license from the old computer

You now have to perform the following steps:

- Open the License Panel by choosing “Licenses...” from the application menu.
- Click on “Deactivate License”.

The Pomfort application will stop working on this machine and the license is free to use on another machine.

By logging into your [Pomfort Account](#) you can make sure that the deactivation of your license was successful. The license should now be shown as “Inactive”.

2. Registering the license on the new computer

Let’s assume you already have the application installed on your new computer.

You now have to perform the following steps:

- Open the program, the License Panel will appear. If not, choose “Licenses...” from the application menu.
- Click on “Add License...” and insert the license key you received after purchase.

In your [Pomfort Account](#) your license will now be shown as “Activated” with the name of the computer that your license is activated on.

Migrate a Silverstack project from one computer to another

Sometimes it’s necessary to migrate an entire project from one computer to another – maybe even during a project. It’s not that difficult – this article shows how this can be accomplished.

There are two activities involved:

- Migrating the license
- Migrating the Library

Migrating the License

Migrating the license is straight forward, it can be done in Silverstack . You need an internet connection and follow the steps described in the Tips & Tricks document “[Migrate a Silverstack license](#)“.

Migrating the Library

Migrating the project with all it’s information is basically moving the Library’s database, the thumbnails and the application’s preferences to the new computer.

If you want to migrate your Silverstack 5 projects to Silverstack 6 please learn how to do that from the article “[How to Manually Migrate Silverstack 5 Projects to Silverstack 6 or Silverstack Lab 6](#)”

If you want to migrate your Silverstack 4 projects to Silverstack 5 please learn how to do that from the article “[How to Manually Migrate Silverstack 4 Projects to Silverstack 5](#)”

In order to transfer files from one computer to another please have an external hard drive or a large USB stick at hand or establish a network connection with file sharing between the two computers.

Silverstack 6

If you are using Silverstack 6, you have to perform the following steps to migrate all thumbnails and the

Library database:

- In Finder on your old computer navigate to `~/Library/Application Support/Pomfort` in your home directory.
- Copy the folder `silverstack6` and all of its contents to the same destination on the new computer.

You have to perform the following steps to migrate the application's preferences files:

- In Finder on your old computer navigate to `~/Library/Preferences` in your home directory.
- Copy the file `com.pomfort.Silverstack6.plist` to the same destination on the new computer.

If you are using Silverstack Lab 6, you have to perform the following steps to migrate all thumbnails and the Library database:

- In Finder on your old computer navigate to `~/Library/Application Support/Pomfort` in your home directory.
- Copy the folder `silverstackLab6` and all of its contents to the same destination on the new computer.

You have to perform the following steps to migrate the application's preferences files:

- In Finder on your old computer navigate to `~/Library/Preferences` in your home directory.
- Copy the file `com.pomfort.SilverstackLab6.plist` to the same destination on the new computer.

NOTE: Since OS X Lion the Library folder in your home directory is hidden. In Finder use Command-Shift-G (⌘⇧G) and enter `~/Library` to open the folder.

You can also use the [Library Metadata Exchange](#) feature present in Silverstack 6 XT.

Silverstack 5

If you are using Silverstack 5, you have to perform the following steps to migrate all thumbnails and the Library database:

- In Finder on your old computer navigate to `~/Library/Application Support/Pomfort` in your home directory.
- Copy the folder `silverstack5` and all of its contents to the same destination on the new computer.

You have to perform the following steps to migrate the application's preferences files:

- In Finder on your old computer navigate to `~/Library/Preferences` in your home directory.
- Copy the file `com.pomfort.Silverstack5.plist` to the same destination on the new computer.

NOTE: Since OS X Lion the Library folder in your home directory is hidden. In Finder use Command-Shift-G (⌘⇧G) and enter `~/Library` to open the folder.

You can also use the [Library Metadata Exchange](#) feature present in Silverstack 5 XT.

Silverstack 4

If you are using Silverstack 4, you have to perform the following steps to migrate all thumbnails and the Library database:

- In Finder on your old computer navigate to `~/Library/Application Support/Pomfort` in your home directory.
- Copy the folder `silverstack4` and all of its contents to the same destination on the new computer.

You have to perform the following steps to migrate the application's preferences files:

- In Finder on your old computer navigate to `~/Library/Preferences` in your home directory.
- Copy the file `com.pomfort.Silverstack4.plist` to the same destination on the new computer.

NOTE: Since OS X Lion the Library folder in your home directory is hidden. In Finder use Command-Shift-G (⌘⇧G) and enter `~/Library` to open the folder.

You can also use the [Library Metadata Exchange](#) feature present in Silverstack 4 XT.

Silverstack 3

If you are using Silverstack 3, you have to perform the following steps to migrate all thumbnails and the Library database:

- In Finder on your old computer navigate to `~/Library/Application Support/Pomfort` in your home directory.



- Copy the folder `silverstack3` and all of its contents to the same destination on the new computer.

You have to perform the following steps to migrate the application's preferences files:

- In Finder on your old computer navigate to `~/Library/Preferences` in your home directory.
- Copy the file `com.pomfort.Silverstack3.plist` to the same destination on the new computer.

NOTE: Since OS X Lion the Library folder in your home directory is hidden. In Finder use Command-Shift-G (`⌘⇧G`) and enter `~/Library` to open the folder.

Silverstack 2

If you are using Silverstack 2.2, you have to perform the following steps to migrate all thumbnails and the Library database:

- In Finder on your old computer navigate to `~/Library/Application Support/Pomfort` in your home directory.
- Copy the folder `silverstackMaster` and all of its contents to the same destination on the new computer.

You have to perform the following steps to migrate the application's preferences files:

- In Finder on your old computer navigate to `~/Library/Preferences` in your home directory.
- Copy the file `com.pomfort.SilverstackMaster.plist` to the same destination on the new computer.

NOTE: Since OS X Lion the Library folder in your home directory is hidden. In Finder use Command-Shift-G (`⌘⇧G`) and enter `~/Library` to open the folder.

How to Manually Migrate Silverstack 5 Projects to Silverstack 6 or Silverstack Lab 6

If you are a user of Silverstack 5 you might want to migrate your projects to Silverstack 6 or Silverstack Lab 6. There is an easy process to perform this migration.

Locating the Library Folders

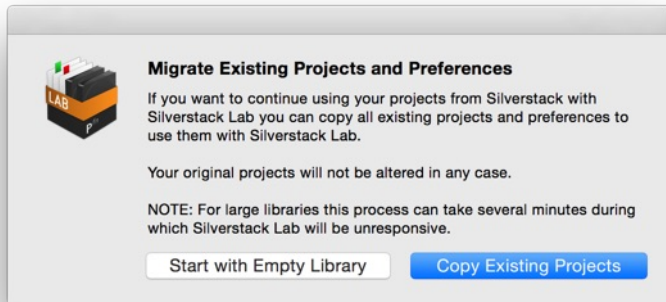
Silverstack 6, Silverstack Lab 6 and Silverstack 5, have different library folders that contain the projects. You will find them at the following paths on your Mac:

- `~/Library/Application Support/Pomfort/Silverstack6`
- `~/Library/Application Support/Pomfort/SilverstackLab6`
- `~/Library/Application Support/Pomfort/Silverstack5`

You can also navigate to the folders from the Main Menu of Silverstack 5 or 6 or Lab 6. Select **“Silverstack>Show Library in Finder”** in the main menu bar at the top of the screen. This will open the project folder and bring you to the `Silverstack.psd` file of your currently opened project. From there you can go two directories backwards to find yourself at the directory of the Silverstack library folders.

Migrating the Library

1. Close Silverstack 6 / Silverstack Lab 6
2. Rename the “Silverstack6” or “SilverstackLab6” folder in the directory `/Users/[yourUser]/Library/Application Support/Pomfort/` to **“Silverstack6_old”/“SilverstackLab6_old”** (you will need that folder to [keep new projects](#))
3. Open Silverstack 6 / Silverstack Lab 6
4. Just like when you started Silverstack 6 / Silverstack Lab 6 from scratch the first time you will be asked if you want to migrate your libraries from version 5 or want to start clean:



5. Choose **“Copy Existing Projects”** to migrate your Silverstack 5 libraries.

6. The library migration assistant will keep you updated on the process and tell you when the migration has finished:

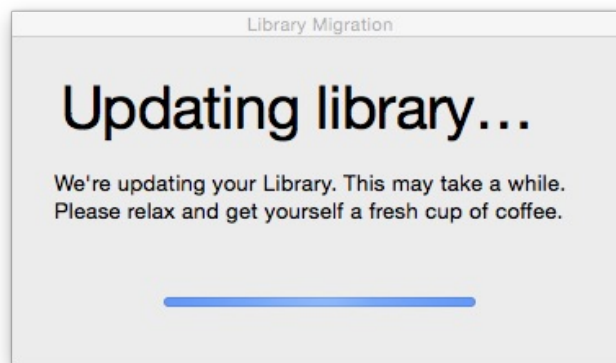


Figure 2: The library migration assistant

7. You can now use Silverstack 6 / Silverstack Lab 6 with your projects from Silverstack 5.

Please note that for large libraries the process can take several minutes. During that time Silverstack will become unresponsive. Leave the system running and the migration process will come to a solid finish.

Keeping Projects from Before the Migration

If you want to keep projects you created in Silverstack 5 before the migration process you can do that by copying the project folders:

1. Close Silverstack.
2. Go to the previously renamed **“Silverstack6_old”/“SilverstackLab6_old”** folder.
3. Select the projects you want to take over to your migrated Silverstack 6 / Silverstack Lab 6 library (projects folder usually are named like “Project-1F342864AF90”)
4. Copy them to the Silverstack6 / SilverstackLab6 folder that was automatically created during the migration.
5. Start Silverstack 6 / Silverstack Lab 6

You will then have all your migrated and the previously created projects in Silverstack 5 together at one place.

If you want you can then delete the **“Silverstack6_old”/“SilverstackLab6_old”** folder because now your current Silverstack 6 / Silverstack Lab 6 library contains all your projects from Silverstack 5 and 6 respectively Silverstack Lab 6.

Incompatible Silverstack or Silverstack Lab Library Version

The Silverstack and Silverstack Lab library versions advance over time across software releases. This is a natural process when a software application advances but inevitably leads to incompatible library version when opening projects with outdated versions of Silverstack/Silverstack Lab.

We always recommend to use the latest version of Silverstack/Silverstack Lab which can be downloaded on the [Pomfort Downloads page](#). Like this you avoid the situation this article takes care of.

Migration and Library Version States

The term “Library Version” basically refers to the state of the Silverstack database and which information it can currently store.

When updating Silverstack to a newer version the existing library is migrated to the latest version. That process establishes compatibility of the existing library with the new library version.

You can learn more about the migration of libraries in the article [“How to manually migrate Silverstack 5 projects to Silverstack 6 or Silverstack Lab 6”](#)

After the migration your library is in a later/newer state and therefore not compatible anymore with older versions of Silverstack. If you are forced by any circumstance to move back to an outdated library version of Silverstack, you can restore a backup that has automatically been created during the migration process.

Restoring a Library Backup

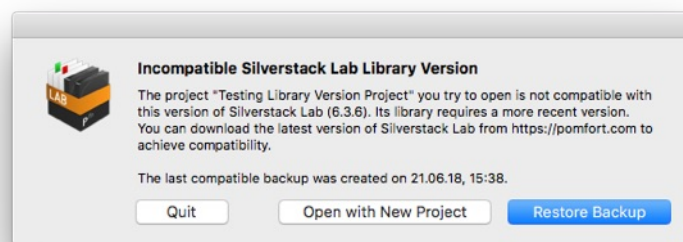


Fig. 1: The “Incompatibly Silverstack Lab Library Version” Alert, applies also to Silverstack

When you open a project that has been created with a later version of Silverstack in an older version the alert from Fig. 1 shows.

At this point you have three options that you can choose from with the buttons:

- **Restore Backup:** Silverstack automatically offers the possibility to restore the last state for which a backup was created that is compatible with the opened version of Silverstack. Backups are automatically created during migration. Automatic backups can be enabled in the Silverstack preferences’ **“Backups”** tab as well as manually triggered.
- **Open with New Project:** To be able to access Silverstack even though the particular project can’t be opened, you can create a new project to start with. You can again change to other projects from within the application then.
- **Quit:** You can quit the application to open the project again with a later version of Silverstack that is compatible with the library version.

In the very rare case that no backup is available you see the following alert that indicates that there is no compatible backup and therefore gives less options:

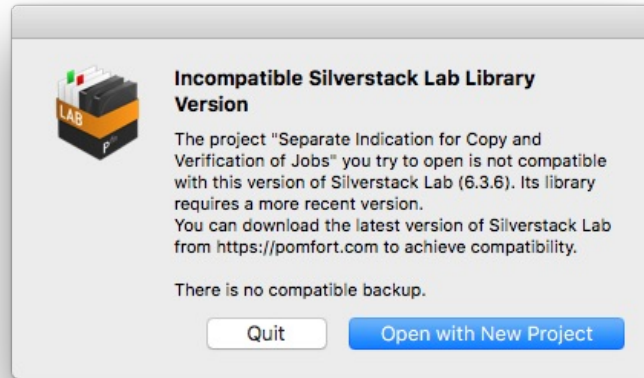


Fig.2: The alert in case there is no available backup that can be restored

Why does Silverstack tell me my license is already activated?

Each Silverstack license key can be activated on one computer at a time. If an error message appears when you try to activate your license on a new computer please check if the license has been properly deactivated from the original computer.

You can do this check by logging into your Pomfort Account. The license status needs to be shown as “Inactive” for you to activate the license on another computer. If this is not the case, please deactivate your license from the computer that it’s shown as “in use on”.

Find more information about the Pomfort Account [here](#).

How do I install a license for all users of a Mac?

You can register Silverstack and LiveGrade Pro once on one machine and afterwards make the license available to all users.

After the activation just move the files in “~/Library/Application Support/Pomfort/Licenses” to “/Library/Application Support/Pomfort/Licenses” (You will have to create the folders Pomfort/Licenses).

Please Note: Since OS X Lion the Library folder in your home directory is hidden. In Finder use Command-Shift-G (⌘⇧G) and enter ~/Library to open the folder.

When restarting the application it will load the licenses from the system disk and every user should be able to use it. With that solution multiple users of this machine can use the Pomfort product license.