libcurl 7.39.0: curl.haxx.se/libcurl
portaudio: portaudio.com
qextserialport: github.com/qextserialport/qextserialport
quazip: quazip.sourceforge.net
zlib 1.2.8: zlib.net
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1 Introduction to the Dolby CineAsset mastering software suite user’s manual

This documentation provides the instructions for operating the Dolby CineAsset mastering software suite.

1.1 Contacting Dolby

This documentation provides instructions for contacting Dolby Cinema Technical Support and for submitting feedback about the documentation.

For questions about the product functionality, contact Dolby Cinema Technical Support at cinemasupport@dolby.com.

For questions relating to this documentation, send an email to documentation@dolby.com.
2 Dolby CineAsset mastering software suite overview

The Dolby CineAsset mastering software suite is a software-based mastering solution that converts popular video and image files into an encrypted or unencrypted Digital Cinema Package file that is played back on digital cinema servers. The suite includes CineAsset, CineAsset Editor, CineAsset Player, and Cinelnpect.

- CineAsset
- CineAsset Editor
- CineAsset Player
- Cinelnpect

2.1 CineAsset

CineAsset manages your audio and video content, stores Digital Cinema Packages, connects devices and groups, ingests content over the network or from connected devices, manages certificates, and manages and generates Key Delivery Messages. Most tasks performed are displayed in the CineAsset main window.

2.1.1 CineAsset render nodes

CineAsset provides support for distributed rendering using render nodes. A render node is a computer running a special version of the CineAsset engine that requires no user interaction. There is no protection on the render node installations. You can install the render nodes on multiple computers on your network.

When the master version of CineAsset is running, it searches for render nodes on the network. For example, if the Universal Serial Bus (USB) dongle is licensed for five render nodes, it uses up to five render nodes it finds on the network when it is processing tasks.

2.2 CineAsset Editor

CineAsset Editor allows you to create 2D and 3D compositions from audio and video files or image sequences and apply filters such as color conversion and encryption. Afterward, it passes the composition to CineAsset Schedule, which handles the conversion and encryption, and places the Digital Cinema Package (DCP) in the CineAsset database.

2.3 CineAsset Player

CineAsset Player can play back encrypted or unencrypted DCPs generated by anyone, as well as any video file or audio file supported by the Dolby CineAsset mastering software suite.
2.4 CineInspect

CineInspect inspects your DCP files by running a number of tests designed to verify the integrity of your DCP makeup. You can choose from various validation levels to inspect an unencrypted or encrypted Digital Cinema Package created by anyone.

After you inspect your DCP file, you can export a set of log messages that display the tests performed and the results obtained from the inspection.
3 Installing the Dolby CineAsset mastering software suite

Before you install the Dolby CineAsset mastering software suite, you must obtain the USB dongle, which includes the license for either the professional or standard versions. Once you have obtained the dongle, you can install the software on Microsoft Windows, Apple Mac OS X, or Linux operating systems.

- Hardware system requirements
- USB dongle and license requirements
- Installing the Dolby CineAsset mastering software suite on Microsoft Windows
- Installing the Dolby CineAsset mastering software suite on Apple Mac OS X
- Installing the Dolby CineAsset mastering software suite on Linux
- Viewing the Dolby CineAsset mastering software suite version
- Setting up optional render nodes

3.1 Hardware system requirements

The hardware system requirements provide useful information to help you verify setup options and avoid performance issues.

3.1.1 Minimum hardware system requirements for Microsoft Windows

This section lists the minimum hardware system requirements for Microsoft Windows.

- Operating systems: Windows 7, Windows 8.1, or Windows 10 (64 bit)
- RAM: 4 GB minimum, 8 GB recommended
- Intel Core 2 Duo minimum, Core i7 recommended
- Graphics adapter with minimum 512 MB dedicated memory (Intel integrated graphics not recommended)

3.1.2 Minimum hardware system requirements for Apple Mac OS X

This section lists the minimum hardware system requirements for Apple Macintosh.

- Operating systems: Apple Mac OS X 10.8.x to 10.11.x
- RAM: 4 GB minimum, 8 GB recommended
- Intel Core 2 Duo minimum, Core i7 recommended
- Graphics adapter with minimum 512 MB dedicated memory (Intel integrated graphics not recommended)

3.1.3 Minimum hardware system requirements for Linux

This section lists the minimum hardware system requirements for Linux.
• Operating systems: CentOS 6 or CentOS 7 (64 bit)
• RAM: 4 GB minimum, 8 GB recommended
• Intel Core 2 Duo minimum, Core i7 recommended
• Graphics adapter with minimum 512 MB dedicated memory (Intel integrated graphics not recommended)

3.1.4 Minimum hardware system requirements for Dolby CineAsset Player

When using Dolby CineAsset Player for real-time playback of a 2K, 24 frames per second (fps) DCP with color conversion, we recommend these minimum hardware system requirements.

• Central processing unit with 12 physical cores or six cores with Intel Hyper-Threading Technology (HT Technology)
• 8 GB RAM
• Graphics adapter with 1 GB dedicated memory
• Fast local storage dedicated to content, such as a 7,200 RPM SATA III disk drive or solid-state drive

Note: Real-time playback of any high-frame-rate 3D DCP or 4K DCP may not be attainable.

3.1.5 Minimum hardware system requirements for HD-SDI output

Dolby CineAsset Player supports and was tested with DeckLink HD Extreme 3D+ and DeckLink 4K Extreme PCIe models.

These are sample configurations for Microsoft Windows 7:

• Six core processors (Intel Xeon X5650 2.67 GHz).
• 24 GB RAM.
• Nvidia Quadro 2000D (1 GB RAM).
• DeckLink 4K Extreme.
• SSD for media.
• This configuration is capable of playing 2D, 2K at 24 fps, with color conversion enabled, to a high-definition serial digital interface (HD-SDI) output, without dropping frames (standard computer monitor output disabled).

These are sample configurations for Apple Macintosh Pro:

• Twelve core processors (Intel Xeon dual 2.4 GHz).
• 12 GB RAM.
• AMD ATI Radeon HD 5770 (1 GB RAM).
• DeckLink 4K Extreme.
• 2x SATA drives (RAID 0) for media.
• This configuration is capable of playing 2D, 1080p at 24 fps, with color conversion enabled, to HD-SDI, without dropping frames (standard computer monitor output disabled).

When a supported card is recognized by CineAsset Player, it displays under the Device menu.
These three playback options are provided to maximize performance:

- Plays only to the HD-SDI output
- Plays only to a standard computer monitor
- Plays to both a standard computer monitor and the HD-SDI output

3.2 USB dongle and license requirements

The Dolby CineAsset mastering software suite license is included on a USB dongle. The Dolby CineAsset mastering software suite provides you with a standard version for unencrypted material and a professional version for encrypted material.

Since the license is located on the USB dongle, make sure the USB is always plugged in when operating the Dolby CineAsset mastering software suite.

3.2.1 USB dongle for unencrypted content

Use the USB dongle for the standard version to work with unencrypted content.

3.2.2 USB dongle for encrypted content

Use the professional version to encrypt content and generate a Key Delivery Message (KDM) for encrypted content. The USB dongle for the professional version uses a unique private key stored on the USB dongle. This allows you to generate a KDM for content that is encrypted with a professional USB dongle.

3.2.3 Evaluation version

Use the evaluation version to test the encryption feature. The certificates and private keys used by the evaluation version are not unique to each installation. You can generate a Key Delivery Message with your evaluation installation for any encrypted content generated with any other evaluation installation.

3.3 Installing the Dolby CineAsset mastering software suite on Microsoft Windows

You can install the Dolby CineAsset mastering software suite on Microsoft Windows operating systems.

Prerequisites

To receive the software package, contact Dolby Cinema Technical Support at cinemasupport@dolby.com.

Procedure

1. Double-click the installation package file, and follow the onscreen prompts.

    The software package for Microsoft Windows operating systems uses the DolbyCineAsset-8.x.x (64 bits).exe file.

2. After installing the package, reboot your workstation.
3.4 Installing the Dolby CineAsset mastering software suite on Apple Mac OS X

You can install the Dolby CineAsset mastering software suite on Apple Mac OS X operating systems.

Prerequisites
To receive the software package, contact Dolby Cinema Technical Support at cinemasupport@dolby.com.

Procedure
1. Double-click the installation package file, and follow the instructions to mount the image.
   The software package to mount the image for Apple Mac OS X operating systems uses the DolbyCineAsset 8.x.x (64 bits).dmg file.
2. Double-click the installation package file, and follow the onscreen prompts.
   The software package for Apple Mac OS X operating systems uses the DolbyCineAsset 8.x.x (64 bits).pkg file.
3. After installing the package, reboot your workstation.

3.5 Installing the Dolby CineAsset mastering software suite on Linux

You can install the Dolby CineAsset mastering software suite on Linux CentOS operating systems.

Prerequisites
To receive the software package, contact Dolby Cinema Technical Support at cinemasupport@dolby.com.

About this task
You can also install this package from a command-line interface.

Procedure
1. Double-click the installation package file and follow the onscreen prompts.
   The software package for Linux CentOS operating systems uses the DolbyCineAsset-8.x.x.el7.centos.x86_64.rpm file.
2. After installing the package, reboot your workstation.

3.6 Viewing the Dolby CineAsset mastering software suite version

You can view your Dolby CineAsset mastering software suite version from the CineAsset main window, CineAsset Editor main window, CineAsset Player main window, and CinelInspect main window. You can also view the number of licensed render notes your USB dongle supports.

Procedure
1. In the CineAsset main window, scroll to Help and click About.
2. In this window, view the software version and licensed render nodes information, and then click OK.  

*Figure 1: Software version and licensed render nodes information*

### 3.7 Setting up optional render nodes

The Dolby CineAsset mastering software suite provides you with the option to set up and configure render nodes on a workstation. When the CineAsset render node is running, the application icon is displayed in the task bar or menu bar.

When CineAsset processes a job, the **Task Information** section in the **CineAsset** main window **Tasks** tab displays the list of servers used as render nodes.  

*Figure 2: Render Nodes task information*

#### 3.7.1 Requirements for CineAsset render nodes

The USB dongle must include licensing for at least one render node, and must be installed on the same platform as the master copy of the Dolby CineAsset mastering software suite.

For example, if the software is running on a Microsoft Windows workstation, the render node must also be installed on a computer system running Windows.
You can install additional render node licenses by contacting Dolby. Also note that your network infrastructure must be capable of sustaining the throughput required for distributed rendering. Insufficient network bandwidth may actually slow down rendering processes.

The software is designed to automatically search for render nodes on a network, and there is no configuration required to set up distributed rendering with the Dolby CineAsset mastering software suite.

3.7.2 Installing and configuring a render node

Install and configure each render node on your workstation on the same network as your Dolby CineAsset mastering software suite master workstation.

Prerequisites
Install the master version of the Dolby CineAsset mastering software suite on your master workstation.

Procedure
1. Install the server version of the Dolby CineAsset mastering software suite on your secondary workstation.
2. After installing the server version of the Dolby CineAsset mastering software suite, open it.
3. Open the master version of your Dolby CineAsset mastering software suite. The render node installs in the background while both the master and server versions of the Dolby CineAsset mastering software suite are running.
4. Repeat this procedure to install and configure more render nodes, as needed.
4 Configuring folders, groups, and devices

You can configure the default settings for your database folder, groups, and any connected devices from the CineAsset main window. You can also create a new show playlist, and then load it and control playback on a connected device.

- Database folder
- Drop-in folders
- Creating a new group
- Connecting a new device
- Editing a device
- Removing an existing group or device
- Controlling a device with transport controls
- Loading a show playlist
- Creating a new show playlist

4.1 Database folder

When installing the suite for the first time, a database folder is automatically created.

The database (DB) folder created inside this folder holds all content that is encoded and wrapped. The database location can be configured to an internal drive, an external drive, or a networked drive. Databases on network drives can be shared between different installations on the same network.

Note: The default database folder is found at ~/Dolby CineAsset/Default_DCinema.

4.1.1 Changing the database folder

Use the Database window to change or configure your database folder.

Procedure

1. Open the CineAsset main window and click the Database tab.
2. Click Change.
3. In the **Database** window, click **change** to open an explorer window and browse for the new database folder.

**Figure 4: Database folder location window**

4. Select the database folder and click **Select Folder** in the explorer window.

5. In the **Database** window, click **Apply**, and then click **OK** to finalize the database change.

### 4.2 Drop-in folders

When media is placed into a drop-in folder, it is automatically imported to the CineAsset database. For each drop-in folder, you can define different encoding profiles, and each drop-in folder can be used with video files or image sequences.
4.2.1 Creating a drop-in folder

Use the Drop-in folder manager window to create a new drop-in folder.

Procedure

1. Open the CineAsset main window and click File, and then click Dropin folder manager.

   Figure 5: File menu

2. In the Drop-in folder manager window, click New.

   Figure 6: Drop-in folder manager

3. With the new options provided, select either Video Files or Picture Folders for your new drop-in folder.
4. Click the browse button (…) next to the **Source** text box, and select a folder for the drop-in folder.

5. Click the browse button (…) next to the **Destination** text box, and choose a destination for the encoded DCP.
   
   If this setting is unchanged, the DCP is added to the database.

6. Choose a profile using the **Profile** drop-down box to define the encoding parameters for media added to the drop-in folder.
   
   You can also generate a new profile using **Settings manager**.

7. When finished, click **Close**.

### 4.3 Creating a new group

Use the **Device Manager** section in the **CineAsset** main window to create a new group for your connected devices.
Procedure

1. In the CineAsset main window, click the Device tab.

   Figure 9: CineAsset main window

2. Click New group in the bottom-left section of the Device tab.

3. In the Devices group window, enter a name for your new group, and then click OK.

   Figure 10: Devices group window

4.4 Connecting a new device

Use the Device Manager section in the CineAsset main window to connect a new device, such as a digital cinema server.

Procedure

1. In the CineAsset main window, click the Device tab.
2. Click **New Device** in the bottom-left section of the **Device** tab.

3. In the **Device properties** window, enter a name and the Internet Protocol (IP) address for the new device.

4. Select which group the new device is added to from the **Group** drop-down box.
5. Enter log-in and password credentials for the new device.
6. Click **OK**.

The new connected device appears in the **CineAsset** main window.

**Figure 14: New device listed**

---

### 4.5 Editing a device

Use the **Device Manager** section in the **CineAsset** main window to edit the information for a connected device.

**Procedure**

1. In the **CineAsset** main window, click the **Device** tab.
2. In the **Device Manager** section, select your device.

**Figure 15: Device selected**
3. Click Properties.

*Figure 16: Properties button*

![Properties button image]

4. In the Device properties window, edit the parameters and then click OK.

*Figure 17: Device properties*

![Device properties window image]

### 4.6 Removing an existing group or device

Use the Device Manager section in the CineAsset main window to remove an existing group or a connected device.

**Procedure**

1. In the CineAsset main window, right-click on the group or device to be removed, and click Remove.
2. In the removal confirmation window, click **Yes** to confirm the removal of the group or device.

**Figure 19: Confirm removal of group or device**

---

### 4.7 Controlling a device with transport controls

Use the transport controls in the **Device status** section in the **CineAsset** main window to control your playback on connected devices.

**Procedure**

1. In the **CineAsset** main window **Device** tab, select your connected device, add composition playlist (CPL) to your show playlist (SPL), and then click **Load**.
2. Use the transport control buttons to control your content playback.

3. To locate to a specific timecode location:
   a) In the Device status section, click Locate.
   b) In the Locate time code window, enter a timecode location and then click Locate.
4. When finished with playback, click Eject.

4.8 Loading a show playlist

You can load a show playlist and perform playback in the CineAsset main window.
Procedure
1. In the CineAsset main window, select your connected device.
2. Click the Existing Show Playlist tab in the Show Playlist section.
3. Select an SPL from the list, and click Load.
   The selected SPL loads in the CineAsset main window and on your connected device.

4.9 Creating a new show playlist
You can create an SPL in the CineAsset main window.

Procedure
1. In the CineAsset main window Device tab, select your connected device.
2. Click the Editor tab in the Show Playlist section.
3. Select the content from the Cpl list section, and click Add to Show Playlist.
   You can add one or multiple CPLs to your SPL.
4. Use the Move up and Move down buttons to rearrange the order of content in your SPL.
5. When finished, click Save.
6. In the Save SPL window, enter a name for your SPL, and then click OK.

Results
Your new SPL is created and added to your connected device.
5 Managing content with CineAsset

The CineAsset main window allows you to manage your database of DCPs.

- Importing a Digital Cinema Package into the CineAsset database
- Downloading content from a device into the CineAsset database
- Deleting content from a device
- Exporting a Digital Cinema Package from the CineAsset database
- Viewing Digital Cinema Package properties
- Viewing a log file for a task
- Canceling a pending or running task
- Removing a completed task
- Restarting a task

5.1 Importing a Digital Cinema Package into the CineAsset database

Use the Add existing DCP button to import a DCP from an external location into your CineAsset database.

About this task
You can add an existing DCP to your CineAsset database by creating either a copy of it or a link to its original location.

Procedure

1. In the CineAsset main window Database tab, click Add existing DCP.
   
   Figure 22: Database tab

2. In the explorer window, find and select your DCP, and then click Select Folder.

3. In the CPL chooser window that appears, select the specific CPL(s) you want to import.
   
   Figure 23: CPL chooser window

4. Select the Copy media files to the database folder check box to copy the media to your database folder.
If unselected, this leaves the media at the original location and creates a link instead.

5. Click OK.

5.2 Downloading content from a device into the CineAsset database

You can download content into your CineAsset database from any connected device.

About this task
You cannot download an encrypted DCP from a connected server.

Procedure

1. In the CineAsset main window Device tab, select a connected device and your content, and then click Download.

   Figure 24: Download content from a device

2. In the download content confirmation window, click Yes.

   Figure 25: Download content confirmation

The content is downloaded to the database folder and displayed in the Database tab.

5.3 Deleting content from a device

You can delete content from any device connected to the Dolby CineAsset mastering software suite.
Procedure

1. In the CineAsset main window Device tab, select a connected device and your content, and then click Delete.

   *Figure 26: Delete content from device*

2. In the delete content confirmation window, click Yes.

   *Figure 27: Delete content confirmation*

5.4 Exporting a Digital Cinema Package from the CineAsset database

Use the Export button to export a DCP from your CineAsset database to an external location.

**About this task**

When exporting content out of your CineAsset database, you have the option to modify your DCP export format.

**Procedure**

1. In the CineAsset main window Database tab, select your DCP from the list.

2. Click Export.
3. In the Export options window, select an export option:

   a) To export to an image sequence, select Export to image sequence.
   
   b) To export to a Waveform Audio Format (WAV) file, select Export to wav file.
   
   c) To export audio to raw data, select Export audio to raw data.
   
   d) To export a complete DCP, select Export to Digital Cinema Package (DCP), and then choose from the corresponding options.

4. Click OK.

5. In the explorer window, select a destination and then click Select Folder.

   Your DCP is exported from your CineAsset database to a new location.

### 5.5 Viewing Digital Cinema Package properties

Use the Properties button in the CineAsset main window Database tab to view the properties for your DCP and to modify certain parameters, including the DCP metadata.

**Procedure**

1. In the CineAsset main window Database tab, select your DCP and click Properties.
2. In the **Properties** window, click each **Reel** tab to view the properties of the specific reels.

3. Click **Location** to open an explorer window and view the location of the DCP on your system.

   You can also view the location of your DCP using the **Show in Explorer/Finder** button in the **Database** tab.

4. Click **Player** to open your DCP in the **CineAsset Player** main window, if needed.
5. To view the metadata for your DCP, select the **Enable** check box, and then click **Edit** in the **General** tab.

6. In the **Metadata** window, view your DCP metadata information, and then click **OK**.

You can view metadata only for Society of Motion Picture and Television Engineers (SMPTE) DCPs. Interop DCPs do not contain extra CPL metadata.
5.6 Viewing a log file for a task

You can view a log file for a specific task for most operations performed in the Dolby CineAsset mastering software suite.

Procedure

1. Open the CineAsset main window and click the Tasks tab.
2. Select the task and click Show log.

This window appears with log information for the task:
5.7 Canceling a pending or running task
You can cancel a pending or running task.

Procedure
1. Open the CineAsset main window and click the Tasks tab.
2. Select the task and click Cancel.
   The task is automatically removed from the CineAsset main window Tasks tab.

5.8 Removing a completed task
You can remove a completed task from the CineAsset main window Tasks tab.

Procedure
1. Open the CineAsset main window and click the Tasks tab.
2. Select the task and click Remove.

5.9 Restarting a task
You can restart a failed task, and you can also restart a canceled task.

Procedure
1. Open the CineAsset main window and click the Tasks tab.
2. Select the task and click Restart.
   If necessary, click Send to editor to open the selected task in the CineAsset main window,
   where you can edit and regenerate the task.
6 Building a Digital Cinema Package with CineAsset Editor

The CineAsset Editor is used to edit an existing DCP or build a new DCP. It takes content files from your CineAsset database and allows you to edit specific options for your DCP. The CineAsset Editor also takes original content from other sources to create a new DCP.

- Opening the CineAsset Editor main window
- Changing the project viewing mode
- Starting a new project
- Saving a project
- Opening an existing project
- Configuring project settings
- Changing the file-access method
- Naming a Digital Cinema Package
- Editing metadata for a Digital Cinema Package
- Working with reels
- Modifying subtitles for a Digital Cinema Package
- Creating a supplemental package
- Setting a profile as default

The CineAsset Editor includes the Project settings window, which defines your DCP settings.

6.1 Opening the CineAsset Editor main window

You can launch the CineAsset Editor main window directly from the CineAsset folder in Microsoft Windows, Apple Mac OS X, or Linux. You can also launch the CineAsset Editor main window from the App Launcher in Microsoft Windows, Apple Mac OS X, or Linux.

Procedure

1. In Microsoft Windows, launch the CineAsset Editor main window from the Start menu by clicking CineAsset Editor under the Dolby Laboratories, CineAsset folder.
2. In Apple Mac OS X, launch the CineAsset Editor main window from the Applications folder by clicking CineAsset Editor under the Dolby Laboratories, CineAsset folder.
3. In Linux RedHat/CentOS, launch the CineAsset Editor main window from the Sound & Video folder in the Applications menu by clicking Dolby Laboratories, CineAsset.

6.2 Changing the project viewing mode

Use the View menu in the CineAsset Editor main window to alternate between Tabbed mode and Windowed mode when working on multiple projects. By default, the CineAsset Editor main window opens in Windowed mode.

Procedure

1. In the CineAsset Editor main window, open a project.
2. Scroll to View > Projects, and then click **Tabbed mode**.

*Figure 37: Tabbed mode selection*

After you click **Tabbed mode**, the CineAsset Editor main window changes to Tabbed mode.
6.3 Starting a new project

Use the New button in the CineAsset Editor main window to start a new project.

About this task
When you open the CineAsset Editor main window for the first time, the Project settings window appears instead. To open a project directly in the CineAsset Editor main window, select Next time automatically load the default settings (can be changed later from Project/Settings menu).

Procedure
1. In the CineAsset Editor main window menu, click Project and then click New.

2. In the Project settings window, modify your DCP settings, and then click Create project.
6.4 Saving a project

Use the Save button in the CineAsset Editor main window to save a project to a CineAsset project file (with a .ca extension).

Procedure

1. In the CineAsset Editor main window menu, click Project and then click Save.

2. In the explorer window, select a location to save your project, and then click Save.

6.5 Opening an existing project

Use Open in the CineAsset Editor main window Project menu to open an existing CineAsset project file.
6.6 Configuring project settings

Use the Project settings window to configure your project settings.

- Modifying the video compression
- Setting the Digital Cinema Package standard, audio configuration, and encryption
- Generating a 3D Digital Cinema Package
- Setting the scaling parameters for a composition
- Adding the image sequence frame rate for a composition
- Overlaying an image to a composition
- Burning an image into a composition
- Adding frames to a composition
- Modifying extra attributes for a Digital Cinema Package

6.6.1 Modifying the video compression

Use the Codec tab to set the video compression type and settings such as the bit rate, video codec, or rule. Available compression types are JPEG 2000, MPEG-2, H.264, and VC-1.

About this task
The Dolby CineAsset mastering software suite does not include a VC-1 encoder. To use the VC-1 codec, your source file must also be VC-1. For JPEG 2000, the maximum bit rate is 500 Mb/s. For MPEG-2 encoding, the maximum bit rate is 80 Mb/s.

Procedure
1. In the Project settings window Codec tab, select a video compression type from the drop-down menu.
2. Change the rule and group of pictures (GOP), as needed.

   The Rule option allows you to control the encoding process. The Encode if necessary option reencodes only source files that do not match the project settings. Encode all files instructs CineAsset to reencode any source file, regardless of the project settings.

   Encode all files except I-Only (MPEG only) instructs CineAsset to only reencode long GOP MPEG files. The Rule option allows you to force reencode JPEG 2000 source files.

3. Select the Adaptive bitrate algorithm check box to enable Target PSNR.

   When unchecked (default), CineAsset uses normal variable bit rate, based on maximum bit rate. When checked, this reduces file size while maintaining the desired quality.

6.6.2 Setting the Digital Cinema Package standard, audio configuration, and encryption

Use the Project settings window MXF tab to set the DCP standard, audio configuration, and video and audio encryption. You can also sign your composition playlist and packing list and set the category for your DCP.

Procedure

1. In the Project settings window, click on the MXF tab.
2. Select the packaging format for your DCP.

3. For a SMPTE DCP, set the audio configuration from the drop-down menu. Hovering over the configuration displays the audio-track labels.

4. Set the Category by using the drop-down menu.

5. Select Encrypt Audio or Encrypt Video check boxes to encrypt your DCP.
For a SMPTE DCP, you may encrypt the subtitles, as well.

6. Sign your CPL and packing list (PKL) by using the Sign CPL and PKL check box, if needed.

### 6.6.3 Generating a 3D Digital Cinema Package

Use the Stereoscopic tab in the Project settings window to generate a 3D DCP.

**Procedure**

1. After you modify the previous settings for your DCP, click the Stereoscopic tab.
2. Select Generate stereoscopic content.

   ![Figure 46: Project settings window](image)

3. Continue to modify the rest of the project settings for your DCP.
4. When finished, click Create project to open your project in the CineAsset Editor main window.

### 6.6.4 Setting the scaling parameters for a composition

Use the Project settings window Scaling tab to set the scaling parameters and force resolution mode for your composition.

**Procedure**

1. In the Project settings window Scaling tab, set the scaling preference from the drop-down menu.
2. Set the force resolution mode using the drop-down menu.

6.6.5 Adding the image sequence frame rate for a composition

Use the Project settings window Image sequence tab to set the frame rate applied when adding image sequences to the CineAsset Editor main window Timeline section.
Procedure

1. In the Project settings window Image sequence tab, set the frame rate for the image sequence using the drop-down menu.

   Figure 49: Project settings window

2. Click the Interlaced check box to interlace your image sequences.

6.6.6 Overlaying an image to a composition

Use the Project settings window Overlay filter to overlay a PNG image file on your video. Once added, the image appears during the playback of your DCP.

Procedure

1. In the Project settings window Default filters tab, select Overlay.
2. Click the picture icon to browse for and select your PNG image file.

3. After you select your PNG image file, adjust the **Width** and **Height** settings to change the size of your PNG image.

**Figure 51: Overlay PNG image**

4. Adjust the **Top pos X** and **Top pos Y** settings to indicate where the overlay is to be displayed.

   Setting both to zero will position the PNG image in the upper-left corner.
6.6.7 Burning an image into a composition

Use the Project settings window Burn filter to burn and edit a frame number, timecode, or editable user text on each frame of the digital cinema package.

Procedure

1. In the Project settings window Default filters tab, select the Burn filter.

   Figure 52: Burn filter

   ![Burn filter figure]

2. Click the browse button (…) in the Font field.

3. In the Select Font window, select a font, a font style, and a font size.

   Figure 53: Select Font window

   ![Select Font window figure]

4. Select Strikeout or Underline, if needed, and select a language, and then click OK.
5. In the **Default filters** tab, click **Font color**.

6. In the **Select Color** window, select a font color, adjust any color variables, and then click **OK**.

   *Figure 54: Select Color window*

7. In the **Default filters** tab, click **Background color**.

8. In the **Select Color** window, select a background color, adjust any color variables, and then click **OK**.

   *Figure 55: Select Color window*

9. In the **Default filters** tab, use the **Position** drop-down menu to select the position of the text on each frame, and then use the **Type** drop-down menu to select the type of text.

### 6.6.8 Adding frames to a composition

Use the Lead/Trail filter in the **Project settings** window **Default filters** tab to add blank frames or custom frames to the beginning, end, or both ends of a composition.
Procedure

1. In the Project settings window Default filters tab, click Lead/Trail.

   Figure 56: Project settings window

   ![Figure 56: Project settings window]

2. Choose between adding a black frame or a custom user frame using the Mode drop-down menu.

3. Select the number of frames to add to your DCP using the Duration drop-down menu.

4. Position the frames in your DCP using the Position drop-down menu.

6.6.9 Modifying extra attributes for a Digital Cinema Package

Use the Misc tab in the Project settings window to modify any extra attributes for your DCP. You can import your DCP to different fps formats, burn subtitles into video, add a selected number of audio tracks, and set the annotation text.

Procedure

1. In the Project settings window, click on the Misc tab.

2. To import your DCP to a different format, select Import 25 fps AV files as 24 fps AV files, or select Import 23.98/29.97 fps AV files as 24/30 fps AV files.

3. Choose to burn subtitles into your DCP.

4. Choose to enable a custom Material Exchange Format (MXF) or CPL file name.
   
   When checked, Enable custom MXF file name allows you to define a custom file name for your MXF files. When not checked (default), the MXF file names are automatically generated with a universally unique identifier (UUID).
   
   When checked, Enable custom CPL file name allows you to define a custom file name for your CPL file. When not checked (default), the CPL file names are automatically generated with a UUID.
5. Select the number of audio tracks for your DCP using the **Number of audio track(s) drop-down menu**.

6. Choose to modify the annotation text or label text.
   By default, this option is selected and has label text set to the CPL title (like annotation text). When unselected, it makes the label text value editable.

### 6.7 Changing the file-access method

Use the Explorer drop-down menu to change the file-access method. You can change the file-access method to **FTP Explorer** from the default method of **Explorer**.

**About this task**

If you have content (image sequences only) stored on a fast network-attached storage (NAS) device, we recommend accessing the content by File Transfer Protocol (FTP) using the **CineAsset Editor main window FTP Explorer**. Accessing data by FTP is faster than using the default file-access method.

**Procedure**

1. In the **CineAsset Editor main window**, click the **Explorer drop-down menu** in the bottom left section, and select **FTP Explorer**.

   ![Figure 57: Change file-access method](image)

2. Enter the credentials for the FTP, and then click **Connect**.
6.8 Naming a Digital Cinema Package

Use the built-in Digital Cinema Naming Convention (DCNC) tool when naming your DCP to ensure it is in compliance with the latest DCNC version.

Procedure

1. With your DCP open in the CineAsset Editor main window, click **Edit with DCNC** in the **General** section.

2. In the DCNC window, enter the title for your DCP in the **Film Title** field.
3. Select your DCP parameters using the drop-down menus. When your DCP title is DCNC compliant, the clip title changes color to reflect the selected parameters. If the clip title is not DCNC compliant, then the title is shown in white letters.

4. When finished, click OK.

5. In the CineAsset Editor main window General section, change the category of your DCP using the Category drop-down menu.

6. Change the audio configuration using the Audio Config. drop-down menu.

7. Click Generate in the General section.

### 6.9 Editing metadata for a Digital Cinema Package

When using the SMPTE standard, you can enable and edit your CPL metadata by using the Enable Metadata check box.

**Procedure**

1. In the CineAsset Editor main window, load your SMPTE-compliant DCP.
2. Click the Enable Metadata check box in the General section, and then click Edit.
3. In the Metadata window, edit your metadata using the available options.
4. When finished, click OK.
5. Click Generate in the General section.

### 6.10 Working with reels

Use the CineAsset Editor main window to add, remove, or edit reels on the Timeline section.
Procedure

1. In the CineAsset Editor main window, click Add reel.

2. Navigate for your content and add it to the Timeline section.

3. Add new reels, as needed.
   Use the Reel tabs to navigate between your reels.

4. To remove a file from a current reel, select the file and click Remove.

5. To clear a current reel, select the reel and click Remove all.

6. To verify properties, edit nondestructive in/out points, and add main markers to a CPL, select the Show properties check box.
   a) Use the Properties tab to display the information about the audio and video so that you can verify that all scaling, cropping, or padding settings are correct.
   b) Use the Non destructive in/out points tab to edit the entry point and duration after the audio and video are added to the Timeline section. Use the Media drop-down list to select the track to edit. After editing an in, out, or duration value, you must press the Enter key to apply the change.
   c) Use the Main Markers tab to add main markers to your CPL.

6.11 Modifying subtitles for a Digital Cinema Package

Use the Subtitle subsection of the CineAsset Editor main window to modify the subtitle attributes for your DCP.

Procedure

1. In the CineAsset Editor main window, use the Browser section to navigate your system for a video file, and add it to the Timeline section.

2. Use the Browser section to navigate your system for an XML subtitle package, and add it to the Timeline section.

3. Click Edit subtitle.

4. Click each Spot Number to display the text and font.
   The Spot Number field lists the spot numbers available for modification.

5. Select the text and change the font for the subtitle.
   From here, you can change the string, horizontal, and vertical alignment. You can also change the text and font.

6. To modify subtitle text:
   a) To change the text, go to the String field and add or delete any words, as needed.
   b) To align the text, go to the H-Align and V-Align fields and choose from the alignment options.

7. To change the time when the subtitle appears in the clip:
   a) Go to the Time In/Time Out Offset field.
   b) Add or subtract the time.
   c) Click Done to save all work.

8. When finished, click Done.
You can undo all work performed using Reset.

9. Click Yes to confirm the modifications.

### 6.12 Creating a supplemental package

You can create a supplemental package for a DCP that is currently in your CineAsset database.

**Procedure**

1. Open the CineAsset main window and click the Database tab. Select your DCP, and then click Create supplemental package.
2. In the new window that appears, wait for the validation output scan to finish, and then click Continue.
3. In the CineAsset Editor main window that appears, remove any DCP assets you want to replace from the Timeline section, and add new DCP assets to the Timeline section.
4. Enter a new name for the new supplemental package in the General section of the CineAsset Editor main window.
5. In the CineAsset Editor main window, scroll to Project > Save to save your project.
6. In the explorer window that appears, find a location and save your project.
7. Once your project is configured and saved, click Generate in the General section of the CineAsset Editor main window.
8. In the Generation window that appears, scroll down and click OK.
9. In the Project New Supplemental Package window that appears, make sure any items in the window are checked, and click OK.
   Once the supplemental package is created, it appears in your database with an arrow, indicating that it is a supplemental package.

### 6.13 Setting a profile as default

You can set any profile to default, so every time the CineAsset Editor main window opens, the default settings configuration is automatically loaded.

**Procedure**

1. Open the Project settings window.
2. Select a profile in the Existing settings section, and then click Set as default.
   A star icon indicates the default profile.
3. To save a current settings configuration to a default profile:
   a) Enter a name for the profile in the Name field at the top of the Settings section, and then click Save.
   The new profile appears in the Existing settings section.
7 Playing back content with CineAsset Player

CineAsset Player allows you to view content and perform playback of your DCP. In addition, you can modify your CineAsset Player settings for both content playback and content validation (through CineInspect).

- Playing back a Digital Cinema Package
- Playing back a multimedia file
- Playing back separated video and audio files
- Modifying CineAsset Player settings

7.1 Playing back a Digital Cinema Package

Use the CineAsset Player main window to open and play back your DCP.

Procedure

1. At the top-left section of the CineAsset Player main window, click File, and then select Open media in the drop-down menu.

You can also open your DCP by dragging and dropping a file or folder into the CineAsset Player main window.

Figure 61: CineAsset Player main window

2. In the Open media window, select DCP.
3. Browse to your DCP by using the browse (...) button at the top-right section of the Open media window.

4. When you find your DCP, click OK.

If your DCP is encrypted, you must search for the corresponding KDM in this window:
Your DCP opens in the CineAsset Player main window.

5. Click **Play** to play back your DCP.

*Figure 65: CineAsset Player main window*

### 7.2 Playing back a multimedia file

Use the CineAsset Player main window to open and play back your multimedia file.

**Procedure**

1. At the top-left section of the CineAsset Player main window, click **File**, and then select **Open media** in the drop-down menu.

   You can also open your multimedia file by dragging and dropping a file or folder into the CineAsset Player main window.
2. In the Open media window, select Multimedia file.

Figure 67: Open media window

3. Browse to your multimedia file by using the browse (…) button at the top-right section of the Open media window.

4. When you find your multimedia file, click OK.
   Your multimedia file opens in the CineAsset Player main window.

5. Click Play to play back your multimedia file.
7.3 Playing back separated video and audio files

Use the CineAsset Player main window to simultaneously open and play back separated video and audio files.

Procedure

1. At the top-left section of the CineAsset Player main window, click File, and then select Open media in the drop-down menu.

   Figure 68: CineAsset Player main window

2. In the Open media window, select Separated audio/video files.

   Figure 69: CineAsset Player Open media window
3. Browse to your separated video and audio files using the browse (…) buttons in the Open media window.

4. When you find your separated video and audio files, click OK. Your separated video and audio files open in the CineAsset Player main window.

5. Click Play to play back your separated video and audio files simultaneously.

7.4 Modifying CineAsset Player settings

CineAsset Player allows you to modify your DCP playback and DCP validation settings.

7.4.1 Modifying CineAsset Player playback settings

Use the Options window to modify your CineAsset Player DCP playback settings.

Procedure

1. In the CineAsset Player main window, scroll to File and then click Options.
2. In the Options window, select one or all of the settings you want to modify:
   a) To allow frames to drop during playback, select the Drop frame allowed check box.
   b) To use the DeckLink option, select the Auto detect DeckLink card check box.
   c) To disable GPU color conversion, unselect the Use GPU for color conversion check box.
   d) To run a validation check each time your DCP is opened, select the Enable dcp validation check check box.
3. When finished, click OK.

7.4.2 Modifying CineAsset Player DCP validation settings

Use the Options window to modify your CineAsset Player DCP validation settings.
Procedure

1. In the CineAsset Player main window, scroll to File and then click Options.

   *Figure 72: CineAsset Player main window*

2. In the Options window, select one or all of the settings you want to modify:
   
   a) To verify the DCP components, select the File Validation check box.
   
   b) To verify that your XML files follow the appropriate schema, select the Schema’s Validation check box.
   
   c) To verify that your encrypted DCP includes a valid signature, select the Signature Encryption Validation check box.
   
   d) To verify that your DCP complies with Digital Cinema Initiatives, LLC (DCI), or standard specifications, select the Compliance Validation check box.

3. When finished, click OK.

   *Figure 73: Options window*
8 Modifying the viewing options with CineAsset Player

CineAsset Player allows you to modify the viewing options while playing back your DCP.

- Adding color conversion
- Adding custom color conversion
- Selecting an image resolution layer
- Changing the playback frame rate
- Enabling side-by-side mode for a 3D Digital Cinema Package
- Changing the JPEG 2000 image quality
- Disabling playback to a standard computer monitor
- Using the HD-SDI output

8.1 Adding color conversion

You can add real-time color conversion while playing back your DCP. The XYZ’/YCxCz to RGB option converts the color space from XYZ to RGB, and the XYZ’/YCxCz to RGB legal range option converts the color space from XYZ to RGB legal range.

Prerequisites
Load your DCP in the CineAsset Player main window.

Procedure

In the CineAsset Player main window, select Video > Color conversion, and then select either XYZ’/YCxCz to RGB or XYZ’/YCxCz to RGB legal range.

Figure 74: CineAsset Player main window
8.2 Adding custom color conversion

You can add custom color conversion while playing back your DCP. This option converts the color space to a user-defined setting.

**Prerequisites**

Load your DCP in the CineAsset Player main window.

**Procedure**

1. In the CineAsset Player main window, select Video > Color conversion > Custom color conversion.

   *Figure 75: CineAsset Player main window*

2. In the Custom color conversion window, choose from one of these options:

   - Use default LUT
   - Use custom LUT

3. Once selected, modify the settings accordingly.

4. If desired, click **Use custom XYZ’ (YCxCz for 3D) to RGB matrix.**
5. When finished, click Save first and then click OK.

### 8.3 Selecting an image resolution layer

You can select an image resolution layer for your DCP. CineAsset Player supports the multiple resolution layers of JPEG 2000–encoded DCPs.

**Prerequisites**

Before selecting a new image resolution layer, make sure your DCP is loaded and is not playing.

**Procedure**

In the CineAsset Player main window, click the JPEG 2000 image resolution drop-down menu and select an image resolution.
Figure 77: CineAsset Player main window

Results
Once selected, your DCP automatically updates to the new image resolution layer.

8.4 Changing the playback frame rate

You can change your DCP playback frame rate prior to playing a loaded DCP.

Prerequisites
Make sure your DCP is loaded in the CineAsset Player main window.

Procedure
1. In the CineAsset Player main window, click in the playback frame-rate adjustment field, and then enter a new frame rate.
   You can also use the up and down arrows to find a new frame rate.
2. After you enter a new frame rate, press the Enter key. Once selected, your DCP automatically updates to the new playback frame rate.

8.5 Enabling side-by-side mode for a 3D Digital Cinema Package

You can enable side-by-side mode when playing back your 3D DCP. When this mode is selected, the CineAsset Player main window splits the view and/or DCP playback into two sections. You can also enable left eye only and right eye only.

About this task
You can enable side-by-side mode only for a 3D DCP.

Procedure

1. Load your 3D DCP in the CineAsset Player main window.
2. Scroll to Video > 3D View > Side by side.
   The CineAsset Player main window splits into two sections.
8.6 Changing the JPEG 2000 image quality

You can change the JPEG 2000 image quality for slower computers. The image-quality setting can save processing power by reducing the rendering quality. The JPEG 2000 image-quality selection range is from 10 (best quality) to 1 (lowest quality). The default setting is 5.

Prerequisites
Before changing the JPEG 2000 image quality, make sure your DCP is loaded and is not playing.

Procedure
In the CineAsset Player main window, click the JP2K image quality drop-down menu, and then select an image-quality setting.
Once selected, the image-quality setting updates automatically in the CineAsset Player main window.

### 8.7 Disabling playback to a standard computer monitor

You can disable playback to a standard computer monitor in the CineAsset Player main window when using high-definition serial digital interface (HD-SDI) output.

**Procedure**

1. In the CineAsset Player main window, click Device and select your card.
2. Uncheck Enable local preview.

### 8.8 Using the HD-SDI output

CineAsset Player supports certain Blackmagic Design DeckLink series cards for HD-SDI output.

**Note:** Specific performance depends on the host computer. We cannot guarantee full-quality, real-time playback when using these output cards.
9 Validating a Digital Cinema Package with CineInspect

We recommend you validate your DCPs using CineInspect. You can choose from various validation levels to inspect nonencrypted or encrypted DCPs. You also have the option to export the inspection results after the validation process.

- Validating a DCP
- Exporting a log file

9.1 Validating a DCP

You can validate your DCP in the CineInspect main window.

Procedure

1. Open the CineInspect main window. Browse for and load your DCP.

   ![CineInspect main window](image)

2. Select options for the validation process, and then click **Start**.
Results
CineInspect runs the DCP validation test and then displays the results in the Validation Output section.
9.2 Exporting a log file

You can export log files after CineInspect validates a DCP.

About this task
After you export your log file, you can also send your validated DCP to CineAsset Player for a visual review.

Procedure

1. In the CineInspect main window, click Export Log.
2. In the dialog that appears, select a location to save your log file, enter a new name for your log file, and then click **Save**. CinelInspect automatically names your log file according to the current date and content title of the CPL.

3. In the **CinelInspect** main window, click **Close**.

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**Figure B4: CinelInspect main window**

![CinelInspect main window](image)
10 Working with certificates and KDMs

When building a DCP with encrypted content, you must generate a KDM. Each encrypted DCP requires a KDM for playback on the target device.

- Exporting certificates from CineAsset
- Adding a certificate to CineAsset
- Retrieving a certificate from a connected device
- Retrieving a certificate from an FTP site
- Removing a certificate
- Generating a KDM with CineAsset
- Managing KDMs generated by CineAsset
- Managing KDMs on connected devices
- Importing a distribution KDM

10.1 Exporting certificates from CineAsset

You can export certificates with CineAsset. An exported certificate can be given to other content owners to generate a KDM. This allows their encrypted content to open with your copy of the Dolby CineAsset mastering software suite.

About this task
The CineAsset certificates include Interop cert 1, SMPTE cert 1, and SMPTE cert 2.

Procedure

1. In the CineAsset main window, scroll to File and then click Export CineAsset’s certificates.

   Figure 85: CineAsset main window

2. Confirm the export certificate warning, and then click Yes.

   Figure 86: Export certificate warning

3. In the explorer window that appears, select a folder to export your certificates into, and then click Select Folder.

4. Click OK to confirm that your certificate was exported.
10.2 Adding a certificate to CineAsset

Use the Certificate Manager window to add a certificate as well as view a certificate and its associated properties. Once you add a certificate, you can access it with the Certificate Manager window from the KDM Generate Options window when generating a KDM.

Procedure

1. In the CineAsset main window, scroll to Kdm/Certificate Manager and then click Certificate Manager.

   Figure 88: CineAsset main window

2. In the Certificate Manager window, click Add.

   The Certificate Manager window includes two tabs, the Server tab and the Projector tab. Use the Server tab to manage certificates for digital cinema servers and the Projector tab to manage the certificates of projectors.

   Figure 89: Certificate Manager window
3. In the explorer window that appears, find and select your Privacy-enhanced Electronic Mail (PEM) certificate file, and then click **Open**.

4. In the **Certificate Manager** window, click **Close**.

![Certificate Manager window](Image)

Your PEM certificate is added to CineAsset.

10.3 Retrieving a certificate from a connected device

You can retrieve a certificate from any connected device listed in the **Device manager** section in the **CineAsset** main window.

**Procedure**

1. In the **CineAsset** main window **Device manager** section, select your connected device, and then click **Retrieve certificates**.
2. Confirm your certificate retrieval and then click OK.

Figure 92: Certificate retrieval complete

10.4 Retrieving a certificate from an FTP site

You can retrieve a Dolby server certificate from an FTP site.

Procedure

1. In the CineAsset main window Device manager section, select your connected device, and then click Retrieve certificates by FTP.

2. In the Retrieval Properties window, enter the serial number into the Serial Number field, and click Add SN.

3. Click Retrieve.
The certificates are downloaded from the FTP site and saved to the selected destination folder.

10.5 Removing a certificate

Use the Certificate Manager window to remove a certificate imported previously into CineAsset.

Procedure

1. In the CineAsset main window, scroll to Kdm/Certificate Manager and then click Certificate Manager.

2. In the Certificate Manager window, select your certificate and then click Remove.
3. In the certificate removal confirmation window, click Yes to confirm the removal.

10.6 Generating a KDM with CineAsset

You must generate a KDM for each encrypted DCP you build.

About this task
CineAsset generates encrypted DCPs and creates KDMs for any DCP encrypted by CineAsset. To generate a KDM for a specific server, the certificates from that server must be used.

Procedure
1. In the CineAsset main window Database tab, select your encrypted DCP and click Generate KDM.
   Encrypted DCPs are displayed with a green lock icon in the Database tab.
2. In the KDM Generate Options window, select the start and end dates for your KDM using the Start of Validity and End of Validity drop-down boxes.
3. Select the appropriate time zone using the **Time Zone** drop-down box.

4. Choose the package standard using the **Standard** drop-down box.

5. Click the **Certificate Manager** tab in the **KDM Generate Options** window, and then click **Add** to add a server's certificate to the list.

6. In the window that appears, browse to and select the appropriate certificate PEM file.

7. Click **Open** to view the server in the server list.

8. Click the check box to select the newly added server, and then click **Generate** to generate a KDM for that server.

   The KDM is generated and accessible from the **Kdm Manager** window.
10.7 Managing KDMs generated by CineAsset

Use the Kdm Manager window to manage KDMs generated by CineAsset, as well as their associated properties. You can also use the Kdm Manager window to send a KDM to connected devices, or over a network via File Transfer Protocol, and view KDM properties.

Procedure

1. In the CineAsset main window, scroll to Kdm/Certificate Manager and click Kdm Manager. *Figure 99: CineAsset main window*

2. In the Kdm Manager window, select your KDM and click Properties.

3. To manage the properties for your KDM:
   a) To change the name of your KDM, enter a new name for your KDM in the KDM Name field.
   b) Enter the annotation text in the Annotation Text field.
   c) To change the start and end validity dates, use the Start of Validity and End of Validity drop-down menus.
   d) When finished, click Apply first and then click Close. *Figure 100: KDM properties window*
4. To view your KDM location, click **Location** in the **Kdm Manager** window.

5. When finished, click **Close**.

*Figure 101: Kdm Manager window*

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### 10.7.1 Removing a KDM

Use the **Kdm Manager** window to remove a KDM.

**Procedure**

1. In the **CineAsset** main window, scroll to **Kdm/Certificate Manager** and click **Kdm Manager**.

2. In the **Kdm Manager** window, select your KDM and then click **Remove**.

*Figure 102: Kdm Manager window*

3. In the KDM removal confirmation window, click **Yes** to confirm the removal.

*Figure 103: KDM removal confirmation window*
10.7.2 Sending a KDM to a connected device

Use the Kdm Manager window to send your KDM to a connected device.

Procedure

1. In the CineAsset main window, scroll to Kdm/Certificate Manager and click Kdm Manager.
2. In the Kdm Manager window, select your KDM and click Send to.

Figure 104: Kdm Manager window

3. In the Select destination device(s) window:
   a) Click the Known device(s) tab.
   b) Select your KDM.
   c) Select the connected device.
   d) Click OK.

Figure 105: Select destination device(s) window

10.7.3 Sending a KDM via FTP

Use the Kdm Manager window to send a KDM over a network using the FTP method.
Procedure

1. In the CineAsset main window, scroll to Kdm/Certificate Manager and click Kdm Manager.

2. In the Kdm Manager window, select your KDM and click Send to.

   Figure 106: Kdm Manager window

3. In the Select destination device(s) window:
   a) Click the Ftp tab.
   b) Select your KDM.
   c) Enter the FTP information.
   d) Click OK.

   Figure 107: Select destination device(s) window

10.8 Managing KDMs on connected devices

Use the Kdm manager section in the CineAsset main window to manage KDMs on connected devices.
Procedure

1. In the CineAsset main window Device manager section, select a connected device.
2. Click the KDM manager tab.
3. To delete a KDM on a connected device:
   a) Select the KDM and then click Delete.
4. To download a KDM from a connected device:
   a) Select the KDM and then click Download.
   b) In the window that appears, select a destination to download your KDM to, and then click Select Folder.
5. To upload a KDM from your workstation to a connected device:
   a) Select the KDM and then click Upload.
   b) In the window that appears, browse for and select your KDM, and then click Select Folder.
   c) Click OK.
6. Click Update to refresh the Kdm list section.

10.9 Importing a distribution KDM

You can import a distribution KDM for encrypted content generated by a third-party mastering company.

Procedure

1. Export and then send your CineAsset certificates to the content owner so they can issue a distribution KDM for the CineAsset dongle in use.
2. In the CineAsset main window Database tab, click Add existing DCP to locate the package folder or CPL you wish to work with, and select Open.
3. When prompted, supply the location of your distribution KDM.
   Your DCP is imported into your CineAsset database, allowing you to create a new KDM as needed.
4. To create new versions of your DCP, use Create supplemental package in the CineAsset Editor main window.

10.9.1 Distribution KDMs

In some cases, it may be necessary to work with encrypted DCPs created by external production facilities. A content owner may issue a distribution KDM for CineAsset based on the public certificate for the CineAsset security USB dongle.

CineAsset supports importing these encrypted DCPs and distribution KDMs to create different versions of the content, or to create additional KDMs.
11 Delivering a Digital Cinema Package

The Dolby CineAsset mastering software suite provides you with the option to deliver (or export) your DCP, and any associated files, to an external drive, a connected device, or an FTP site.

- Exporting a Digital Cinema Package to an external drive
- Exporting a Digital Cinema Package to a connected device
- Exporting a Digital Cinema Package to an FTP site

11.1 Exporting a Digital Cinema Package to an external drive

You can export a complete DCP to an external drive from the CineAsset main window Database tab.

Procedure

1. In the CineAsset main window Database tab, select your DCP and then click Export.
2. In the Export window, select Export to Digital Cinema Package (DCP), and then click OK. Make sure Export complete DCP is selected to export the complete DCP.

   Figure 108: Export window

3. In the explorer window, find and select an external drive, and then click Select Folder. Your complete DCP is exported to the external drive.

11.2 Exporting a Digital Cinema Package to a connected device

Use the Select destination device(s) window to export (or transfer) a DCP in your CineAsset database to a connected device.

Procedure

1. In the CineAsset main window Database tab, select a DCP and click Send to.
2. In the **Select destination device(s)** window, select the DCP in the left section.

3. If your DCP is encrypted, click **Add KDM** to select a KDM to send to the connected device along with the DCP.

4. Select the server to send the DCP to in the **Known devices(s)** tab, and then click **OK**.
   You can also schedule the DCP export for a later time using the **Schedule transfer** check box and date/time drop-down menu.

You can observe the status of your DCP export in the **CineAsset** main window **Tasks** tab.

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**11.3 Exporting a Digital Cinema Package to an FTP site**

Use the **Select destination device(s)** window to export (or transfer) a DCP in your **CineAsset** database to an FTP site.
Procedure

1. In the CineAsset main window Database tab, select a DCP and click Send to.

   Figure 111: CineAsset main window

2. In the Select destination device(s) window, select a DCP in the left section.

3. If your DCP is encrypted, click Add KDM to select a KDM to send to the FTP site along with the DCP.

4. Select the Ftp tab, and then enter the address, log-in, and password. You can also schedule the DCP export for a later time using the Schedule transfer check box and date/time drop-down menu.

   Figure 112: Select destination device(s) window

5. Enter the destination folder on the FTP site where you want to place your DCP.

6. Click OK to transfer your DCP to the FTP site.

Results

You can observe the status of the DCP export in the CineAsset main window Tasks tab.
12 Dolby CineAsset mastering software suite user interfaces

The Dolby CineAsset mastering software suite applications contain user interfaces that perform separate functions as you build your DCP.

- CineAsset main window
- Project settings window
- CineAsset Editor main window
- CineAsset Player main window
- CineInspect main window
- Tool-bar icons

12.1 CineAsset main window

The CineAsset main window displays all of your content and DCPs, all connected devices, and a list of tasks performed.

The CineAsset main window contains these separate function tabs:

- Device tab: Manages devices that are connected to CineAsset.
- Database tab: Manages the CineAsset database and transfers DCPs.
- Tasks tab: Displays the tasks list and the associated log information.

12.1.1 Device tab

The Device tab in the CineAsset main window contains three sections: Device manager, Device status, and CPL manager/KDM manager.

The Device manager section allows you to add and edit networked devices and organize them by groups. You can also use the Device manager section to retrieve certificates from external locations and import them into the CineAsset database.

The Device status section displays the current status of a selected device. The Device status section also provides transport controls for controlling the playback of a connected device.

These transport controls are available:

- Loop: Sets the DCP to play back on a continuous loop
- Pause: Pauses the DCP playback operation
- Previous: Moves the DCP playback operation to a previous time location
- Fast Forward (FF): Moves the DCP playback operation to a future time location
- Next: Skips to the next DCP in the playlist
- Play then Rewind: Sets the DCP to play back and then rewinds to the beginning
- Play then Eject: Sets the DCP to play back, and then ejects the DCP when finished
- Locate: Locates to a specific timecode location in the DCP

Note: The transport controls apply to only the Dolby DCP-2000, Dolby DCP-2K4, IMB/ShowVault, IMS1000, IMS2000, or DC-Post.
The CPL manager section in the CineAsset main window manages your DCPs on connected devices, and it is the location where you create and load SPLs for playback. Within the CPL manager section, there are two subsections: Cpl list and Show Playlist.

The Cpl list subsection displays all available clips on a device. The Show Playlist subsection displays all available SPLs on a device, and it also allows you to edit your SPLs.

The KDM manager section allows you to view, delete, upload, and download a KDM from a device connected to CineAsset.

### 12.1.2 Database tab

The Database tab in the CineAsset main window lists all the DCPs in your CineAsset database. You can transfer a DCP from the CineAsset database to a device connected to CineAsset. You can also create KDMs; delete, export, and import DCPs; and manage any accompanying assets.

*Figure 113: CineAsset main window: Database tab*

These content-descriptive markers are available in the Database tab:

- **Cpl title**: Displays the CPL title
- **Reel title**: Displays the reel number of the content file
- **Codec**: Displays the type of codec used to compress content
- **Duration**: Displays the total length of the clip
- **Video information**: Displays the type of video file
- **Encrypted**: Displays whether or not the content is encrypted
- **Audio information**: Displays the type of audio for the content file
- **Sort order**: Displays the content using numerical sequence
- **Category**: Identifies the type of content
- **Sub/Caption**: Identifies whether the content includes subtitles or captioning
- **Packaging format**: Identifies whether the content is SMPTE or Interop standard
- **Last modification**: Displays the most recent date and time the content was modified
• **Size**: Displays the total size of the content file
• **Comment**: Displays any additional notes

These buttons are available in the **Database** tab:
• **Properties**: Provides the properties for a selected DCP file
• **Remove**: Removes the DCP file from the CineAsset database
• **Show in Explorer**: Provides the location of the DCP file on your system
• **Add existing DCP**: Adds a DCP to your CineAsset database from another location on your system
• **Editor (Import)**: Opens the **CineAsset Editor** main window to create a new package
• **Player**: Opens the selected DCP file in the **CineAsset Player** main window
• **Sent to**: Sends the selected DCP file to another location, either through FTP method or over the network
• **Export**: Exports the DCP file to another format and location
• **Refresh**: Refreshes the **Database** tab after new items are added or deleted
• **Clear selection**: Unselects any item previously selected
• **Create supplemental package**: Opens the **CineAsset Editor** main window and creates different versions
• **CineInspect**: Opens the selected DCP file in the **CineInspect** main window for validation
• **Generate KDM**: Generates a KDM for a selected DCP file

*Figure 114: CineAsset main window buttons*

**Export DCP options window**

When you export a DCP with linked assets, these options appear in the **Export options** window:
• **Export complete DCP**: Exports a complete DCP including the MXF files
• **Export supplemental**: Exports a DCP without the MXF files and does not include them in the PKL and ASSETMAP
• **Export XML files with linked assets**: Exports only the XML files (CPL, PKL, and ASSETMAP) and lists all the assets, including the linked assets, in case of a supplemental package
• **Export only the CPL file**: Exports only the CPL file
12.1.3 Tasks tab

The Tasks tab displays the status of any tasks executed by CineAsset, such as transferring a DCP to a device or creating a new DCP. You can also remove, cancel, restart, refresh, and view the progress of each task in progress or previously completed.

These colored markers are displayed to indicate the status of a task:

- Green circle: Task completed successfully
- Amber circle: Task processing
- Blue circle: Task pending
- Red circle: Task failed
- Red cross through white circle: Task canceled

Figure 116: Tasks tab color markers

These task operation buttons are available:

- Remove: Removes a task from the Tasks tab
- Cancel: Cancels a task as it is in process
- Restart: Restarts a task
- Show log: Displays the selected task information
- Send to editor: Sends the selected task to the CineAsset Editor main window
• **Refresh**: Refreshes the list of tasks in the **Tasks** tab

• **Show in Explorer**: Displays the location of the file referenced in the selected task

*Figure 117: Tasks tab operation buttons*

When you select an import task, the **Encoding information** tab appears next to the **Task information** tab. The **Encoding information** tab displays the bit rate for each frame, as well as the peak signal-to-noise ratio value (if the **Target PSNR** option is selected for the encode process).

*Figure 118: Encoding information tab*

The **Encoding information** tab is not available for tasks generated with previous CineAsset versions or if the package was not reencoded.

### 12.2 Project settings window

The **Project settings** window defines the settings for your DCP, such as the bit rate, package standard, and frame rate. Any settings that are set initially using the **Project settings** window can be changed later from the **CineAsset Editor** main window.

The **Project settings** window includes two sections, **Existing settings** and **Settings**.
12.2.1 Existing settings section

The Existing settings section contains saved “profiles,” or settings configurations. You can set any profile to default, so every time the CineAsset Editor main window opens, the default settings configuration is automatically loaded.

These default profile settings are available:

- **Default 3D JP2K 250 Mbps**: The default profile setting to create an unencrypted, Interop, 3D DCP using JPEG 2000 compression at 250 Mbps. This preset can be selected as a starting point, and all parameters can be adjusted as needed. This profile setting is commonly used for DCI-compliant theatrical content.

- **Default H.264**: The default profile setting to create an unencrypted, Interop DCP using H.264 compression at approximately 80 Mbps. This preset can be selected as a starting point, and all parameters can be adjusted as needed. This profile setting is commonly used for preshow advertising or alternative content.

- **Default JP2K 250 Mbps**: The default profile setting to create an unencrypted, Interop DCP using JPEG 2000 compression at 250 Mbps. This preset can be selected as a starting point, and all parameters can be adjusted as needed. This profile setting is commonly used for DCI-compliant theatrical content.

- **Default MPEG2**: The default profile setting to create an unencrypted, Interop DCP using MPEG-2 compression at approximately 80 Mbps. This preset can be selected as a starting point, and all parameters can be adjusted as needed. This profile setting is commonly used for preshow advertising or alternative content.

- **Default VC1**: The default profile setting to create an unencrypted, Interop DCP using VC-1 compression at approximately 80 Mbps. This preset can be selected as a starting point, and all parameters can be adjusted as needed. This profile setting is commonly used for preshow advertising or alternative content.
12.2.2 Settings section

The **Settings** section defines specific settings for your DCP. The **Settings** section includes seven tabs: **Codec**, **MXF**, **Stereoscopic**, **Scaling**, **Image sequence**, **Default filters**, and **Misc**. Each tab allows you to modify a specific setting for your DCP.

**Codec tab**

These compression types are available in the **Codec** tab:

- JPEG 2000
- MPEG-2
- H.264
- VC-1

**MXF tab**

These DCP packaging formats are available in the **MXF** tab:

- Interop
- SMPTE

These DCP audio formats are available in the **MXF** tab:

- Inter-Society Digital Cinema Forum (ISDCF): Provides you with the ISDCF audio configuration.
- SMPTE: Provides you with the SMPTE audio configurations.

These DCP category options are available in the **MXF** tab:

- Feature
- Trailer
- Test
- Teaser
- Rating
- Advertisement
- Short
- Transitional
- Public service announcement (PSA)
- Policy

**Stereoscopic tab**

This option is available in the **Stereoscopic** tab:

- Generate stereoscopic content

**Scaling tab**

These scaling parameters are available in the **Scaling** tab:

- Scaling preferences: Sets the scale and maintains the aspect ratio, and adds a border around an image.
- Force resolution mode: Forces the video into a specific video format.

**Image sequence tab**

These frame rates are supported in the **Image sequence** tab:
• High frame rates
• Standard frame rates
• Archive frame rates

**Default filters tab**

These default filters are available in the Default filters tab:

- **Color Conversion**: The most commonly used filter; is occasionally set as default when using JPEG 2000 image compression
- **Overlay**: Overlays a .png image file on video
- **Burn**: Burns and edits a frame number, timecode, or editable user text on each frame of a DCP
- **Lead/Trail**: Adds blank frames or custom user frames to the beginning, end, or both ends of a composition

These color-conversion options are available in the Default filters tab:

- **Use default LUT**: Uses the CineAsset default RGB to XYZ LUT (look-up table).
- **Use Custom input LUT**: Edits the color conversion manually using slides to adjust the gamma curves or by using a .csv LUT file.
- **Offset**: Adjusts the image brightness.
- **Gamma**: Sets the input decoding gamma .exp. If the input is Rec709, which uses an encoding gamma of 0.45, the correct setting is 2.22 (1/0.45).
- **Gain**: Adjusts the image contrast.
- **Use 3D LUT**: Uses a .3dl LUT file.

CineAsset uses an encoding gamma defined by the ITU-R BT.709-5 specification. If you want to use a mathematical 2.22, use the Custom input LUT option. Custom LUT files must be 12 or 16 bits with frame size equal to 512, 1024, 2048, 4096, 8192, 16394, 32768, or 65536 samples.

**Misc tab**

These DCP extra attributes are available in the Misc tab:

- **Import 25 fps AV files as 24 fps AV files**: Converts 25 fps video files to 24 fps
- **Import 23.98/29.97 fps AV files as 24/30 fps AV files**: Converts 23.976 fps video files to 24 fps, and converts 29.97 fps video files to 30 fps
- **Burn subtitles into the video**: Renders all subtitle files into the image of your finished DCP
- **Enable custom MXF file name**: Defines a custom file name for your MXF files
- **Enable custom CPL file name**: Defines a custom file name for your CPL file
- **Number of audio track(s)**: Forces a certain number of audio tracks to a project
- **Annotation text**: Automatically sets the annotation text to the same as the CPL title
- **Label text**: Automatically sets the label text to the same as the CPL title
12.3 CineAsset Editor main window

You can use external files (image sequences, audio files, multimedia files, and so on) in the CineAsset Editor main window to build a new DCP. The CineAsset Editor main window takes the familiar form of a nonlinear editor, and it functions in a similar way.

You can have multiple projects open in the CineAsset Editor main window at any time. You can view those multiple projects using two methods, Windowed mode and Tabbed mode.

These four main sections are found in the CineAsset Editor main window.

- **Browser**: Navigates your computer, CineAsset database, and FTP locations for content to use for creating a DCP.
- **Timeline**: Constructs your content and provides a view for your audio and video for a particular reel. You can also add video, audio, and subtitle files to the Timeline section from the Browser section.
- **Source/Preview**: The Source section previews your video files or image sequences before you add them to the Timeline section. The Preview section allows you to view the video with filters applied.
- **General**: Names your DCP and allows you to edit DCP metadata.

12.3.1 Browser section

The Browser section in the CineAsset Editor main window allows you to navigate your computer or workstation for audio, video, and other content files. The Browser section includes three tabs: Media files, Database, and Filters.

![Figure 120: CineAsset Editor main window: Browser section](image)

The Media files tab provides direct access to all content on your computer. You can load a file directly using the Preview button. The file loads in the Source/Preview section, where you can play and preview the content.

Once you choose your content, you can add it to a specific reel on the Timeline section using the Add to selected reel button.
The **Database** tab displays all Digital Cinema Packages in your CineAsset database. You can add a selected file as a new reel using the **Add as new reel** button. You can also add a selected file to a current reel using the **Add to current reel** button.

If you need to preview a file in the **Source/Preview** section, use the **Preview** button. To view the properties for a selected file, use the **Properties** button.

The **Filters** tab displays filters to edit your content. These filters are added to the current reel on the **Timeline** section by dragging and dropping, or added to all reels by using the **Add to all reels** button.

In addition to these filters, there is an **Audio Delay** filter. The Audio Delay filter is added to all the audio tracks and can delay the audio by a designated number of frames.

### 12.3.2 Source/Preview section

The **Source** section in the **CineAsset Editor** main window allows you to preview video files or image sequences before adding them to the **Timeline** section. The **Preview** section allows you to view the video with filters applied.

In the **Source** section, the transport controls allow you to preview content with play, eject, pause, stop, and fast-forward buttons. You can also use the **Source** section to mark in and out points (for example, to trim a file) before adding it to the **Timeline** section.

When a file is opened, more features appear for you to modify and then preview. The name of the source file opened appears at the top center. If a JPEG 2000 file is loaded, a drop-down menu for JP2K image quality appears, as well.

**Figure 121: File open in Source/Preview section**

![File open in Source/Preview section](image)

### 12.3.3 Timeline section

The **Timeline** section in the **CineAsset Editor** main window allows you to build and edit your composition (or content). You can add video, audio, subtitles, captions, and other features to your composition.
When subtitles are added to the Timeline section, only the subtitle file is added. The resources referenced in the XML file are added automatically when the DCP is generated.

Video files and image sequences are added to video tracks, while audio files are added to their corresponding audio tracks. Use your mouse to drag a file to a different track. You can also use the Move up and Move down buttons to move files to different tracks.

Note: Subtitle or caption XML files are added to the subtitle or caption tracks. The Dolby CineAsset mastering software suite supports both TXT and PNG subtitles.

To edit DCPs not in your CineAsset database, drag and drop the DCP folder or the CPL onto the Timeline section.

When creating stereoscopic DCPs, the Timeline section displays two video tracks: Left Eye and Right Eye. The left-eye file or image sequence is added to the Left Eye video track, and the right-eye file or image sequence is added to the Right Eye video track.

12.3.4 Subtitle editor subsection

The Subtitle editor subsection of the CineAsset Editor main window is used to modify the subtitle and text attributes for your DCP. The Subtitle editor subsection appears after you add subtitles to the Timeline section and click Edit subtitle.

Note: Click Apply to view your changes in the left section of the CineAsset Editor main window. Clicking Apply does not save the changes.

These subtitle text attributes are available in the Subtitle editor subsection:

- UUID
- Title
• Format
• Reel number
• Language
• Edit rate

12.4 CineAsset Player main window

The CineAsset Player main window includes a menu bar at the top-left section that provides access to multiple functions for opening DCPs and media files and controlling the DCP playback process.

Figure 124: CineAsset Player main window

If no file is loaded, the Open media window appears, where you can filter content to locate your files quickly. You can filter DCPs, audio files, and video files, and then sort the files according to type, making it easier to locate and open specific content.
12.4.1 Menu-bar options

The CineAsset Player main window provides menu-bar options when playing back a DCP. These menu-bar options are available in the top-left section of the CineAsset Player main window:

- **File**: Opens a new or recent DCP file, launches CinelInspect, and exports certificates.
- **Controls**: Controls the playback of DCPs. You can play, pause, load, eject, and so on.
- **Video**: Modifies the image resolution and color-conversion properties.
- **Audio**: Maps the audio tracks in your DCP file. Available only if your DCP file contains audio tracks.
- **DCP**: Views your DCP properties. Also sends your DCP file directly to the CinelInspect main window for schema validation.
- **Device**: Available only when a DeckLink card is detected.
- **View**: Switches between regular mode and full-screen mode.
- **Help**: Provides you with the CineAsset Player software version and user manual.

12.4.2 Control buttons

The CineAsset Player main window provides playback control buttons and other options to modify DCP playback. These playback control buttons are available when a DCP is loaded in the CineAsset Player main window:

- **Full screen**: Toggles between full-screen mode and regular mode.
- **Go to beginning**: Forces playback to begin from the start of a video or DCP file, even while playback is in progress.
- **Fast rewind**: Rewinds quickly.
• Play/Pause: Performs two functions, to begin playback or to pause playback.
• Stop: Stops all playback of video and audio.
• Fast forward: Speeds up the playback of video.
• Go to end: Pushes the playback process to the end of the time sequence.
• Loop: Activates continuous loop play for playback files.
• JP2K image resolution layer: Provides a drop-down menu with multiple resolution layers for JPEG 2000–encoded DCPs.
• Color conversion: Provides a drop-down menu with multiple color-conversion options.
• JP2K image quality: Provides a drop-down menu with multiple options for adjusting the image quality of JPEG 2000 DCPs.

_Figure 126: CineAsset Player main window_

![CineAsset Player main window](image)

**12.4.3 Options window**

The _Options_ window allows you to modify DCP playback and DCP validation settings. These options are provided for modifying CineAsset Player DCP playback settings:

• _Drop frame allowed_: Drops frames when playing a file in real time. When this box is unchecked, CineAsset Player plays every frame available. If system performance is low, the playback may be slower when compared to real time.

• _Auto detect DeckLink card_: Automatically detects the DeckLink I/O card. When the DeckLink I/O card is not used, system performance is improved when playing a file directly to your computer monitor.
• Use GPU for color conversion: By default, this option is set to use the graphic adapter GPU when performing color conversion. If there is an issue with playback when color conversion is enabled, you can uncheck this box to disable GPU support.

• Enable dcp validation check: Performs a validation check on each loaded DCP. If this box is unchecked, CineAsset Player does not run a validation check each time a DCP is loaded for playback. Once selected, the Options window expands and the Validation Options section appears.

These options are provided for modifying your CineAsset Player DCP validation settings:

• File Validation: Verifies that DCP components are present and referenced appropriately

• Schema's Validation: Verifies that the XML files in your DCP folder follow the appropriate schemas

• Signature Encryption Validation: Verifies that your encrypted DCP includes the accurate and valid signature

• Compliance Validation: Verifies that your DCP complies with either the DCI or standard specifications (SMPTE or Interop)

12.5 CineInspect main window

The CineInspect main window allows you to select the settings and display the results of a DCP inspection. The CineInspect main window includes three sections: Validation Tool, Validation Options, and Validation Output.

12.5.1 Validation Tool

The Validation Tool section in the CineInspect main window allows you to navigate to your DCP for testing.

12.5.2 Validation Options

The Validation Options section in the CineInspect main window allows you to select the level of validation for your DCP. CineInspect splits the validation inspection into various options.

These validation options are available in the CineInspect main window:

• File Validation: Verifies whether your DCP includes all of the files required for a valid DCP, and verifies that the files were not altered (for example, size verification).

• Schema's Validation: Verifies all the XML files in the selected DCP to validate against their corresponding schemas, according to the standard of the DCP (SMPTE or Interop).

• Signature Encryption Validation: Verifies the integrity of the signatures present in the XML files.

• DCI specification: Runs a number of tests specified in the DCI specifications to verify that your DCP follows the standardization. Valid only for SMPTE DCPs.

• Standard specification: Runs a number of tests to verify that your DCP follows the DCP specification standard for SMPTE or Interop.

12.5.3 Validation Output

The Validation Output section in the CineInspect main window displays a detailed set of log messages specifying the tests performed and the results obtained from your DCP inspection.
process. A summary of the total number of tests that passed, failed, or displayed warnings also appears in this section.

These log messages include descriptions specifying the tests performed and the results obtained:

- **Pass**: Indicates that the tested aspect of your DCP is within the respective specification
- **Fail**: Indicates that the tested aspect of your DCP is not within the respective specification and will likely cause problems with other DCP software or digital cinema players
- **Warning**: Indicates that the tested aspect of your DCP is not within the respective specification, but is not likely to cause problems with other DCP software or digital cinema players

### 12.6 Tool-bar icons

Once installed, the Dolby CineAsset mastering software suite runs as a service indicated by a tool-bar icon.

These tool-bar icons indicate status when performing operations:

- **Green circle**: Indicates status is good
- **Amber circle**: Appears when processing tasks
- **Red circle**: Appears in the event of a failure

For Microsoft Windows, the tool-bar icon is located in the system tray.

For Apple Mac OS X, the tool-bar icon is located in the menu bar.

For Linux RedHat/CentOS, the tool-bar icon appears in the notification area of the desktop.

To exit any Dolby CineAsset mastering software suite application, right-click this icon and select **Quit CineAsset**.

*Figure 127: Quit CineAsset*

![Quit CineAsset](image)

After you close a window for the first time, a message window appears, reminding you that CineAsset is available from the tool-bar icon.

*Figure 128: Quit CineAsset window*

![Quit CineAsset window](image)

You can choose to click **OK** or select the **Do not show this message again** check box. If you click **OK**, the message appears again the next time you close a CineAsset window. If you select the check box, the message does not appear again.
13 Dolby CineAsset mastering software suite command-line interface options

The Dolby CineAsset mastering software suite provides you with the option to operate CineAsset, play back and validate your DCP, and generate a KDM from a command-line interface (CLI).

- CineAsset CLI
- CineAssetSchedule KDM Generation CLI
- CineAsset Player CLI
- CineInspect CLI

13.1 CineAsset CLI

Use these attributes to operate CineAsset from a CLI.

13.1.1 CineAsset CLI syntax

CineAssetSchedule.exe <command> [-i input1 [input options] input2 [input options]...] -settings settings_file_name title [destination]

13.1.2 CineAsset commands available

Use these commands for CineAsset.

- **-audio-only**
  Import only the audio tracks.

- **-video-only**
  Import only the video tracks.

13.1.3 CineAsset input options

Use these commands for displaying and creating a DCP with CineAsset.

- **-help**
  Shows the command-line usage

- **-dcp**
  Creates a DCP

13.1.4 CineAsset CLI settings

Settings files are generated using CineAsset. If no settings file is specified, then the CineAsset default settings are used.
Title
The title used for your DCP.

Destination
The path where your DCP is created, such as the desktop or C Drive. If no destination is specified, your DCP is created in the active CineAsset database.

13.1.5 CineAsset CLI examples
Refer to these examples for using the CineAsset CLI.

This example creates a one-reel DCP using audio.wav and video.m2v. The settings specified in the jp2k_settings.pro file are used when creating the DCP. The DCP is named dcp_example1 and saved to the root directory of the G Drive.

```
CineAssetSchedule.exe dcp -i G:\audio.wav G:\video.m2v -settings G:\jp2k_settings.pro dcp_example1 G:\n```

This example creates a one-reel DCP from video1.ts using the settings specified in the jp2k_settings.pro file. The DCP is named dcp_example2 and saved to the root directory of the G Drive.

```
CineAssetSchedule.exe dcp -i G:\video1.ts -settings G:\jp2k_settings.pro dcp_example2 G:\n```

This example creates a one-reel DCP using the video track from video1.ts and the audio track from video2.ts. The settings specified in the jp2k_settings.pro file are used when creating the DCP, which is named dcp_example3 and saved to the root directory of the G Drive.

```
CineAssetSchedule.exe dcp -i G:\video1.ts -video-only G:\video2.ts -audio-only -settings G:\jp2k_settings.pro dcp_example3 G:\n```

This example creates a two-reel DCP: one reel made from the reel1.wav and reel1.m2v files, and the second reel made from the reel2.wav and reel2.m2v files. The settings specified in the jp2k_settings.pro file are used when creating the DCP, which is named dcp_example4 and saved to the root directory of the G Drive.

```
CineAssetSchedule.exe dcp -i G:\reel1.wav G:\reel1.m2v -i G:\reel2.wav g:\reel2.m2v -settings jp2k_settings.pro dcp_example4 G:\n```

13.2 CineAssetSchedule KDM Generation CLI
Use these attributes to generate a KDM from a CLI.

13.2.1 CineAssetSchedule KDM syntax
13.2.2 **CineAssetSchedule KDM commands available**

Use these commands for a CineAssetSchedule KDM.

- **-kdm**
  Creates a KDM.

- **-help**
  Displays the command-line usage.

13.2.3 **CineAssetSchedule KDM input options**

These input options are used to generate a KDM from a CLI. When entering a location, make sure to include it in quotation marks so spaces are accounted for.

- **-d**
  KDM location. If not available, then the KDM is created in the database by default.

- **-i**
  Input source directory for the DCP for which to generate a KDM.

- **-s**
  Server certificate location. Multiple entry of servers allowed.

- **-p**
  Projector certificate location (optional). Multiple entry of projectors allowed.

- **-std**
  Standard of the KDM to be created, either "Interop" or "Smpte" (optional). If no standard is present, then the KDM will default to Interop standard.

- **-cert**
  Valid only if KDM standard is set to SMPTE (optional). Could be "cs" or "cssm".

- **-f**
  File name label (optional).

- **-a**
  Annotation text (optional).

- **-sv**
  Start of KDM validity (optional). Format should be MMddyyyy-hhmmss. If -sv is not available, then the current date and time are used.

- **-ev**
  End of KDM validity (optional). Format should be MMddyyyy-hhmmss. If -ev is not available, then the end of validity is set to the start of validity plus one month.

- **-vid**
  Forensic watermarking for picture (optional). Could be "True" or "False". If not present, then by default is set to true.

- **-aud**
  Forensic watermarking for audio (optional). Could be "True" or "False". If not present, then by default is set to true only if the KDM standard is set to SMPTE. Otherwise, set to false.
-t
Sets the time zone for the input start and end periods relative to -t "+5:00". Defaults to "+0:00".

-uuid
Sets the UUID of the created KDM. Default option generates a unique UUID.

-b
Batch KDM creation using a user-defined .xml file. When this option is used, the other options must not be used. For example: CineAssetSchedule kdm -b kdm1.xml -b kdm2.xml -b kdm3.xml.

13.2.4 CineAssetSchedule KDM examples
These examples provide KDM generation for an Interop DCP and a SMPTE DCP.

Interop DCP
CineAssetSchedule.exe kdm -i "C:\Users\george\Doremi CineAsset\Default_DCinema\DB\Jp2k_Interop_Encrypted-0c9cc3e6-c54e-45a4-ab77-dd6983fba9a8" -s "C:\Users\george\Doremi CineAsset\Certs\DB\CineAsset-1209372349\cert_interop_ME_CS_SM.pem"

SMPTE DCP
CineAssetSchedule.exe kdm -i "C:\Users\george\Doremi CineAsset\Default_DCinema\DB\Jp2k_Interop_Encrypted-bc9cc3e6-c54e-45a4-ab77-dd6983fba9a8" -s "C:\Users\george\Doremi CineAsset\Certs\DB\CineAsset-1209372349\cert_interop_ME_CS_SM.pem" -s "C:\Users\george\Doremi CineAsset\Certs\DB\CineAsset-3085594947\cert_smpte_CS.pem" -std Smpte -sv 07202013-030310

Batch KDM creation in XML format
<?xml version="1.0" encoding="UTF-8"?>
<ASSET_MANAGER_TASK>
  <UUID>ecf12c01-cf1d-44ea-a8af-042567b8dd81</UUID>
  <ISSUE_DATE>2014/09/10 14:19:04</ISSUE_DATE>
  <TASK_ISSUER>Doremi120410</TASK_ISSUER>
  <TASK_CREATOR>CineAsset Version 6.9.4</TASK_CREATOR>
  <EXTRA_STATUS>Idle</EXTRA_STATUS>
  <PRIORITY>Normal</PRIORITY>
  <TYPE>Generate KDM</TYPE>
  <KDM_STANDARD>1</KDM_STANDARD>
  <KDM_TIMEZONE>+00:00</KDM_TIMEZONE>
  <KDM_LABEL>kdm1_commandLine_attempt_1</KDM_LABEL>
  <KDM_START_VALIDITY>9/09/2014 14:18:51</KDM_START_VALIDITY>
  <KDM_END_VALIDITY>10/10/2014 14:18:51</KDM_END_VALIDITY>
  <KDM_PICTURE_WATERMARK>1</KDM_PICTURE_WATERMARK>
  <KDM_AUDIO_WATERMARK>16</KDM_AUDIO_WATERMARK>
  <KDM_SRV_NAME>CineAsset-165344668</KDM_SRV_NAME>
  <KDM_DIR_LOCATION>C:\Users\aslade\Doremi CineAsset\Kdms\DB</KDM_DIR_LOCATION>
</ASSET_MANAGER_TASK>
13.3 CineAsset Player CLI

You can operate CineAsset Player from a CLI.

13.3.1 CineAsset Player CLI syntax

Use this syntax to operate CineAsset Player from a CLI.

```
CineAssetPlayer.exe \[input file 1]\[input file 2] {-fullscreen}
```
13.3.2 CineAsset Player input files
The maximum number of input files is two. If you specify two input files, only the audio track is taken from input file 1 and only the video track is taken from input file 2. An input file is a video or audio file of any format supported by CineAsset.
An input file can also be a folder containing DCP files or a folder containing an image sequence.

13.3.3 CineAsset Player CLI examples
These examples provide audio, video, and DCP files for full-screen playback with CineAsset Player from a CLI.

This example opens audio.wav and video.ts for full-screen playback in CineAsset Player.
```
CineAssetPlayer.exe G:\audio.wav G:\video.ts -fullscreen
```

This example opens Example_DCP for full-screen playback in CineAsset Player.
```
CineAssetPlayer.exe G:\Example_DCP\ -fullscreen
```

13.4 CineInspect CLI
You can operate CineInspect from a CLI.

13.4.1 CineInspect CLI syntax
Use this syntax to operate CineInspect from a CLI.
```
CineInspect.exe <command> [dcpFolderDir] [validation_level] start [outputfile]
```

13.4.2 CineInspect commands available
Use these commands to operate CineInspect from a CLI.
- **-show**
  Displays the validation tool
- **-hide**
  Hides the validation tool

13.4.3 CineInspect input options
Use these input options for the destination folder of the DCP to inspect dcpFolderDir. When entering a location, be sure to include it in quotation marks, so that spaces are accounted for.
These input options are for the validation level of the DCP:
- **1** = File validation
- **2** = Schemas validation
- **3** = Signature encryption validation
• 4 = Compliance with DCI specification validation
• 5 = Compliance with standard (SMPTE or Interop) specification validation

These input options are for opening the CineInspect main window:
• Optional, and is only valid when command = show
• If not present, then displays the graphical user interface (GUI) and does not start the validation
• If present, then displays the GUI and starts validation automatically

These input options are for the log generation output.
• Optional, and is valid only when command = hide. It is the destination path file name.
• If not present, then hides the GUI and outputs the log to the standard output window.
• If present, then hides the GUI and outputs the log to the specified output file.

13.4.4 CineInspect CLI examples

Use these examples to validate your DCP from a CLI.

This example displays the Inspection Validation GUI, and sets the DCP path to G:/Mpeg2_Interop_UnEncrypted and the validation level to Signature Encryption Validation.

```bash
CineInspect.exe -show G:/Mpeg2_Interop_UnEncrypted 3
```

This example displays the Inspection Validation GUI, and sets the DCP path to G:/Mpeg2_Interop_UnEncrypted. Validation level is set to Signature Encryption Validation, and the validation process starts automatically.

```bash
CineInspect.exe -show G:/Mpeg2_Interop_UnEncrypted 3 start
```

This example hides the Inspection Validation GUI, and automatically sets the DCP path to G:/Mpeg2_Interop_UnEncrypted and the validation level to Compliance, with standard specification validation. It starts the validation process automatically and outputs the log to the standard output.

```bash
CineInspect.exe -hide G:/Mpeg2_Interop_UnEncrypted 45
```

This example hides the Inspection Validation GUI, and automatically sets the DCP path to G:/Mpeg2_Interop_UnEncrypted and the validation level to Compliance, with standard specification validation. It starts the validation process automatically and outputs the log to the `test_log.txt` file. If there is no extension, the output file format is automatically considered a `.txt` file format.

```bash
CineInspect.exe -hide G:/Mpeg2_Interop_UnEncrypted 5 G:/temp/test_log
```

This example hides the Inspection Validation GUI, and automatically sets the DCP path to G:/Mpeg2_Interop_UnEncrypted and the validation level to Compliance, with standard specification validation. It starts the validation process automatically and outputs the log to the `test_log.txt` file (which outputs to `.txt` file format).

```bash
CineInspect.exe -hide G:/Mpeg2_Interop_UnEncrypted 5 G:/temp/test_log.txt
```

This example hides the Inspection Validation GUI, and automatically sets the DCP path to G:/Mpeg2_Interop_UnEncrypted and the validation level to Compliance, with standard specification validation.
specification validation. It starts the validation process automatically and outputs the log to the test_log.xml file (which outputs to .xml file format).

```
CineInspect.exe -hide G:/Mpeg2InteropUnEncrypted 5 G:/temp/test_log.xml
```
14 File formats and codecs

The Dolby CineAsset mastering software suite file formats and codecs provide useful information to help you verify options and avoid performance issues.

- Digital Cinema Package output formats
- Video codec import formats
- Video codec export formats
- Container import formats
- Container export formats
- Image sequence import formats
- Image sequence export formats
- Audio import formats
- Audio export formats

14.1 Digital Cinema Package output formats

The Dolby CineAsset mastering software suite supports specific DCP output formats.

Table 1: DCP output formats

<table>
<thead>
<tr>
<th>Output formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG 2000</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>• 2D and 3D at up to 4K resolution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Bit rate: 50–500 Mbps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPEG-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>• I-only or Long GOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1080p at 80 Mbps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H.264</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>• 1080p at 50 Mbps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VC-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>• Wrapping only, no transcoding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.2 Video codec import formats

The Dolby CineAsset mastering software suite supports specific video import codecs.
## Table 2: Video codec import formats

<table>
<thead>
<tr>
<th>Video codec import formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG 2000</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DNxHD</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• In MOV Container, with QuickTime installed and with Avid QuickTime codecs installed</td>
</tr>
<tr>
<td>DNxHR</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• In MOV Container, with QuickTime installed and with Avid QuickTime codecs installed</td>
</tr>
<tr>
<td>ProRes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• In MOV container, with Apple QuickTime installed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• In MOV container, with Apple QuickTime installed</td>
</tr>
<tr>
<td>YUV uncompressed</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Xvid</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MPEG-4</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Advanced Video Coding (AVC)/H.264</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>High-Efficiency Video Coding/H.265</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>VC-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MPEG-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DVCPro25/50</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DVCProHD</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Photo JPEG</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MJPEG-A&amp;B</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

## 14.3 Video codec export formats

The Dolby CineAsset mastering software suite supports specific video export codecs.
Table 3: Video codec export formats

<table>
<thead>
<tr>
<th>Video codec export formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>YUV uncompressed</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNxHD</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ProRes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPEG-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPEG 2000</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.4 Container import formats

The Dolby CineAsset mastering software suite supports specific container import formats.

Table 4: Container import formats

<table>
<thead>
<tr>
<th>Import formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVI</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MOV</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MXF</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MPG</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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### 14.5 Container export formats

The Dolby CineAsset mastering software suite supports specific container export formats.

<table>
<thead>
<tr>
<th>Container export formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOV</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• With Apple QuickTime installed</td>
<td></td>
</tr>
<tr>
<td>MXF</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• In a Digital Cinema Package</td>
<td></td>
</tr>
<tr>
<td>MPG</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• When source Digital Cinema Package is MPEG-2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• In a Digital Cinema Package</td>
<td></td>
</tr>
</tbody>
</table>

### 14.6 Image sequence import formats

The Dolby CineAsset mastering software suite supports specific image sequence import formats.

<table>
<thead>
<tr>
<th>Image sequence import formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMP</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Tagged Image File Format (TIFF)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>TGA</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DPX</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>JPG</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>J2C</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
14.7 Image sequence export formats

The Dolby CineAsset mastering software suite supports specific image sequence export formats.

Table 7: Image sequence export formats

<table>
<thead>
<tr>
<th>Image sequence export formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIFF</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>J2C</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

14.8 Audio import formats

The Dolby CineAsset mastering software suite supports specific audio import formats.

Table 8: Audio import formats

<table>
<thead>
<tr>
<th>Audio import formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MP3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MP2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Advanced Audio Coding (AAC)</td>
<td>No</td>
<td>Yes</td>
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</tr>
<tr>
<td>AIF/AIFF</td>
<td>Yes</td>
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</table>

14.9 Audio export formats

The Dolby CineAsset mastering software suite supports specific audio export formats.

Table 9: Audio export formats

<table>
<thead>
<tr>
<th>Audio export formats</th>
<th>Linux (CentOS)</th>
<th>Microsoft Windows</th>
<th>Apple Mac OS X</th>
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<tbody>
<tr>
<td>WAV</td>
<td>Yes</td>
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<tr>
<td>MP2</td>
<td>Yes</td>
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</table>
# 15 Documentation revision history

This table provides the documentation revision history for the Dolby CineAsset mastering software suite.

<table>
<thead>
<tr>
<th>Date</th>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 November 2016</td>
<td>1</td>
<td>First issue for software v8.0</td>
</tr>
<tr>
<td>30 November 2016</td>
<td>2</td>
<td>Modified Section 14.3</td>
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</table>
**Glossary**

**AAC**
Advanced Audio Coding. A perceptual audio coding system that is described by ISO/IEC 14496-3.

**AVC**
Advanced Video Coding. See H.264 on page 119.

**CLI**
Command-line interface.

**CPL**
Composition playlist. A composition playlist represents a complete digital cinema work, which may include features, trailers, teasers, and advertisements.

**CPU**
Central processing unit.

**DCI**
Digital Cinema Initiatives, LLC. A joint venture of several motion picture studios that defines an open architecture based on voluntary standards for digital cinema systems.

**DCP**
Digital Cinema Package. A packing list (PKL) file and all of the files that it references.

**fps**
Frames per second. The number of unique consecutive images (frames) an imaging device produces in one second.

**FTP**

**GUI**
Graphical user interface.

**H.264**
H.264. Also known as Advanced Video Coding (AVC), ISO/IEC MPEG-4 AVC, and ISO/IEC 14496–Part 10: Advanced Video Coding. An MPEG standard for video compression most commonly used for high-definition video, such as Blu-ray Disc. The standard was developed jointly by the International Telecommunication Union (ITU) and ISO/IEC MPEG.

**H.265**
H.265. Also known as High Efficiency Video Coding (HEVC), ISO/IEC 23008-2 MPEG-H Part 2, and ITU-T H.265. An MPEG standard for video compression that improves on the H.264 (AVC) video compression standard and extends support to 8-bit ultra-high-definition video. The standard was developed jointly by the Moving Picture Experts Group (MPEG) and Video Coding Experts Group (VCEG).

**HD-SDI**
High-definition serial digital interface.
HEVC
High-Efficiency Video Coding. See H.265 on page 119.

HFR
High frame rate. Refers to a composition with a frame rate at 48 frames per second or higher that provides more visual information and reduced motion blur.

HT Technology
Hyper-Threading Technology. A technology developed by Intel that enables a processor to run two threads, or sets of instructions, simultaneously (in parallel). The operating system sees the Hyper-Threading Technology processor as two separate processors.

IP
Internet Protocol.

ISDCF
Inter-Society Digital Cinema Forum. A group of professionals that meets to discuss issues related to enhancing technical and operational cooperation in the digital cinema industry.

KDM
Key Delivery Message. An XML file that is used to provide decryption keys for a specific CPL containing encrypted content. A KDM also specifies the time window during which the keys remain valid, as well as trusted equipment information to ensure that the CPL playback is possible only on authorized equipment and for an approved period of time.

LUT
Look-up table. In the context of Dolby Vision, a look-up table is a series of precalculated display management data stored in a static text file. It saves processing time and cycles for display management.

MXF
Material Exchange Format. A file format used to transfer and store different types of content (for example, audio, video, data, or metadata). MXF currently supports various compression and encoding formats, and its specification can be extended to new essence formats, if needed.

NAS
Network-attached storage. Data storage that is accessed by means of a local network connection for fast data sharing and file access.

PCM
Pulse code modulation. A standard method used to digitally represent sampled analog signals. PCM is the standard form of digital audio in computers, compact discs, digital telephones, and other digital audio applications.

PEM
Privacy-enhanced Electronic Mail. A file format for security certificates in email communication.

PKL
Packing list. An XML file that describes a set of files in one digital cinema package (DCP).

PSNR
Peak signal-to-noise ratio. The mathematical ratio between the maximum possible value (or power) of a signal and the power of distorting noise.
SMPTE
Society of Motion Picture and Television Engineers.

SPL
Show playlist. A that defines one digital cinema show and is made up of a sequence of compositions that are associated with automation events, inserts (black pattern and others), or both.

TIFF
Tagged Image File Format.

USB
Universal Serial Bus. A standard that defines the cables, connectors, and communications protocols used in connections between computers and electronic devices.

UUID
Universally unique identifier. A 128-bit string used to identify a software component.

WAV
Waveform Audio Format. An audio bitstream file format.

XML
Extensible Markup Language.

YUV
A file format that is encoded using the YCbCr color space.