**Quick start guide
to
CuteDCP v1.9.0**

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Quick start guide

This guide will help you create a DCP (Digital Cinema Package), using the CuteDCP exporter plug-in for Adobe After Effects.

CuteDCP offers the following features:
• SMPTE and InterOp compliant DCPs
• 2K and 4K
• HFR support up to 96fps
• 3D HFR support 48fps (96fps per eye)
• Supported framerates 24, 25, 30, 48, 50, 60 or 96 fps
• Stereo, 5.1 and 7.1 Surround Audio
• Interop Subtitles (CineCanvas) & SMPTE 428-7 Subtitles
• 3D Stereoscopic support
• DCP meta data control
• Multithreaded support, faster encoding
• Title Helper Tool
• Internal Rec709 to x'y'z' and P3 to x'y'z' color space conversion, faster and more accurate.

1./ What is a DCP?

DCP, "Digital Cinema Package", is a collection of files used to store and convey Digital Cinema (DC) images, audio and data streams. The term 'DCP' has been defined by Digital Cinema Initiatives in its recommendations for the packaging of Digital Cinema content.

2./ Introduction to CuteDCP

CuteDCP is a DCP creation tool for After Effects. CuteDCP is an exporting (output module) plug-in that allows users to create DCPs from any file imported into After Effects and minimizes the number of steps required to create a DCP. CuteDCP is easy to use and has been tested on most major play-out servers. It has never been easier to create a DCP package. The Demo version is fully functional and can be used for clips shorter than 360 frames without watermarking.

3./ System requirements

Operating system:
Windows: Windows XP, Windows Vista, Windows 7, Windows 8 & Windows 10
MacOSX: 10.6 or later

Software:
Adobe After Effects CS5 or later

4./ Installation of CuteDCP

It will only take a few minutes to install CuteDCP.
You can download the latest version of CuteDCP from the Fandev website: http://www.fandev.com

Windows: If you have already installed a previous version, go to the control panel and uninstall the older version.
Double-click on the executable setup file downloaded from the Fandev website and follow the on-screen instructions.
Please note that the default install location will be the plug-in folder for Adobe After Effects CS6.
If you are using a newer or older version of After Effects, press the browse button and locate the plug-in folder for that version.

Mac: Double-click on the downloaded installer file to mount it and a license screen will appear.
Drag and drop the CuteDCP plug-in to the version of After Effects you are using.

Windows installer.

Mac installer.
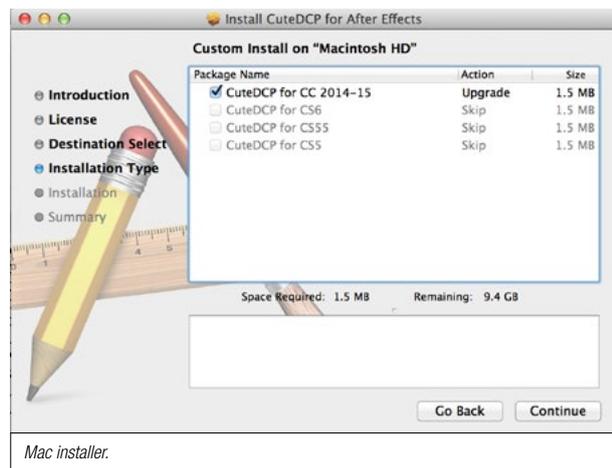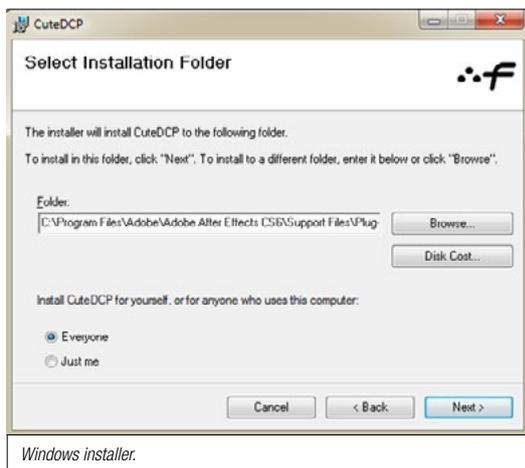
Where are the plug-ins installed?
Windows:
CS5:   C:\Program Files\Adobe\Adobe After Effects CS5\Support Files\Plug-ins
CS5.5:   C:\Program Files\Adobe\Adobe After Effects CS5.5\Support Files\Plug-ins
CS6:   C:\Program Files\Adobe\Adobe After Effects CS6\Support Files\Plug-ins
CC: C:\Program Files\Adobe\Common\Plug-ins\7.0\MediaCore
CC2014: C:\Program Files\Adobe\Common\Plug-ins\7.0\MediaCore
CC2015: C:\Program Files\Adobe\Common\Plug-ins\7.0\MediaCore

Mac:
CS5:   /Applications/Adobe/Adobe After Effects CS5/Plug-ins
CS5.5:   /Applications/Adobe/Adobe After Effects CS5.5/Plug-ins
CS6:   /Applications/Adobe/Adobe After Effects CS6/Plug-ins
CC: /Library/Application Support/Adobe/Common/Plug-ins/7.0/MediaCore
CC2014: /Library/Application Support/Adobe/Common/Plug-ins/7.0/MediaCore
**CC2015:** /Library/Application Support/Adobe/Common/Plug-ins/7.0/MediaCore

See section "About Tab" for how to authorize CuteDCP.

5./ Creating the DCP

- Setting up a project -

1. Launch After Effects
2. Make sure that your After Effects project is set to 16 bpc (bits per channel)
   Check the current bit depth of your project at the bottom of the project window.
   If you need to change the bit depth of your project, go to menu File->Project Settings.
   In the Project Settings window, use the Depth drop-down box to select 16 bits per channel.

Select "Project Settings" in the File Menu

The Project Settings dialog box
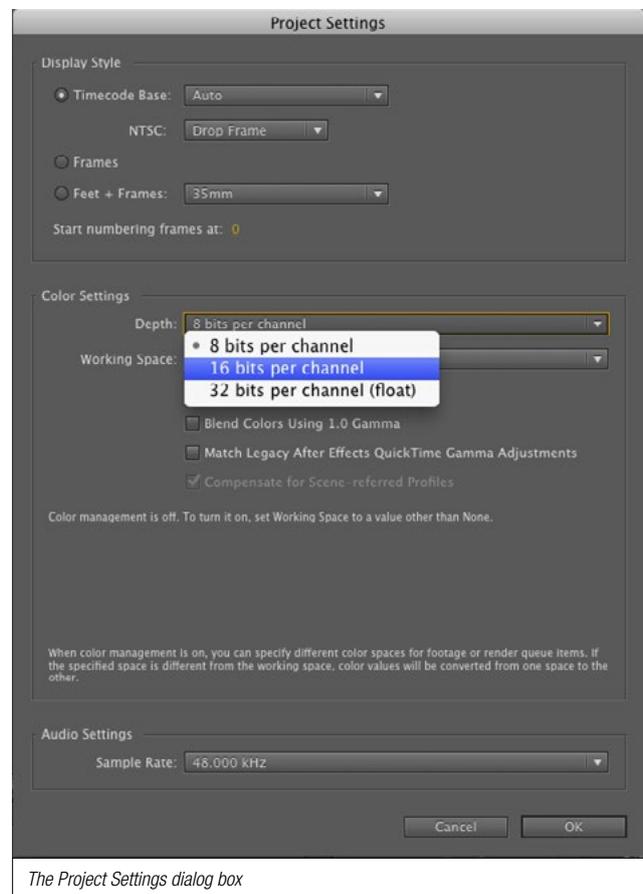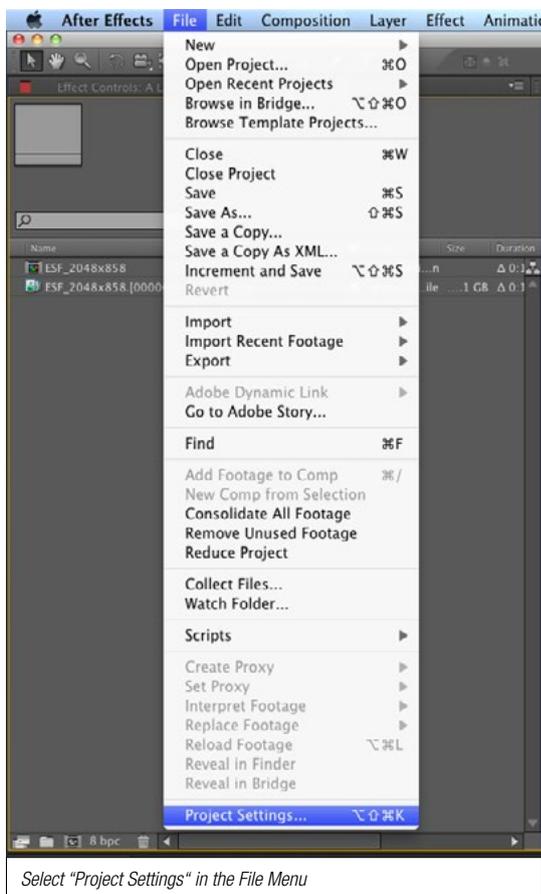
3. Import the footage you want to use for your DCP.
4. Create a composition in one of three digital cinema compliant sizes:

| **2K sizes:**	**4K sizes:**
Flat – 1998 x 1080	Flat – 3996 x 2160
Scope – 2048 x 858	Scope – 4096 x 1716
Full – 2048 – 1080	Full – 4096 – 2160

5. Add your imported footage to the composition.
   Make sure that the frame rate of your composition and footage match.

   Hint: If your footage is in HD (1920 x 1080), use 'Flat' (1998 x 1080) and pad with 39 pixels of black on each side.

-Add to render queue-

5. When your composition is active, go to menu Composition->Add to Render Queue
6. In your render queue, select Output Module. Choose Format: CuteDCP
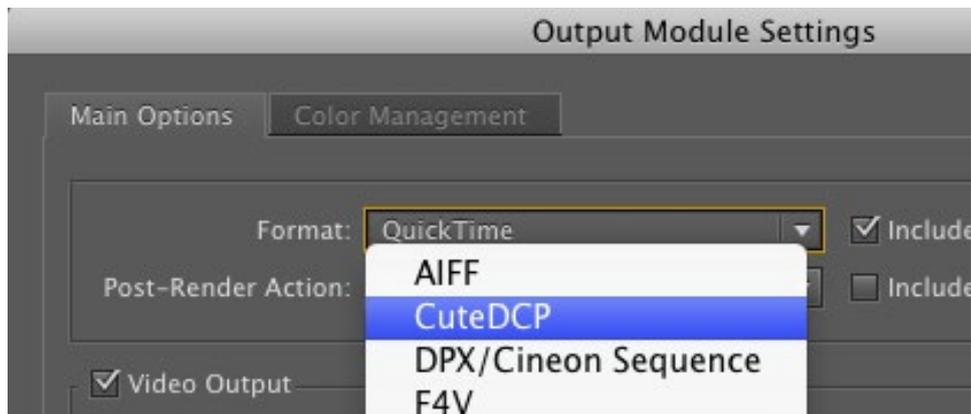
7. Set the Video Output Depth to 'Trillions of Colors'

The Output Module Settings dialog box
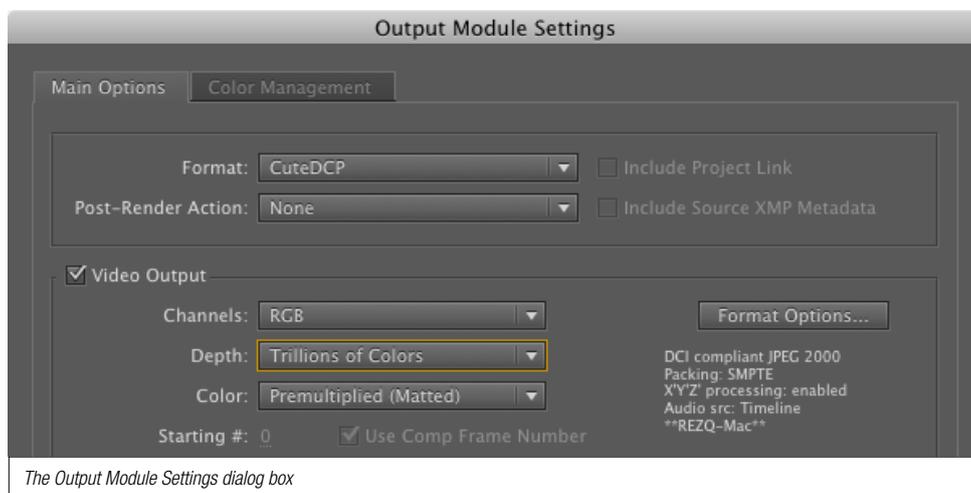
8. Just below the Format Options button, you can see some of the options available for CuteDCP.

9. This step is very important: you need to check your Format Options settings every time you are going to render a DCP.
Press the Format Options button to enter the options dialog window.

-Format Options-

10. **General tab**
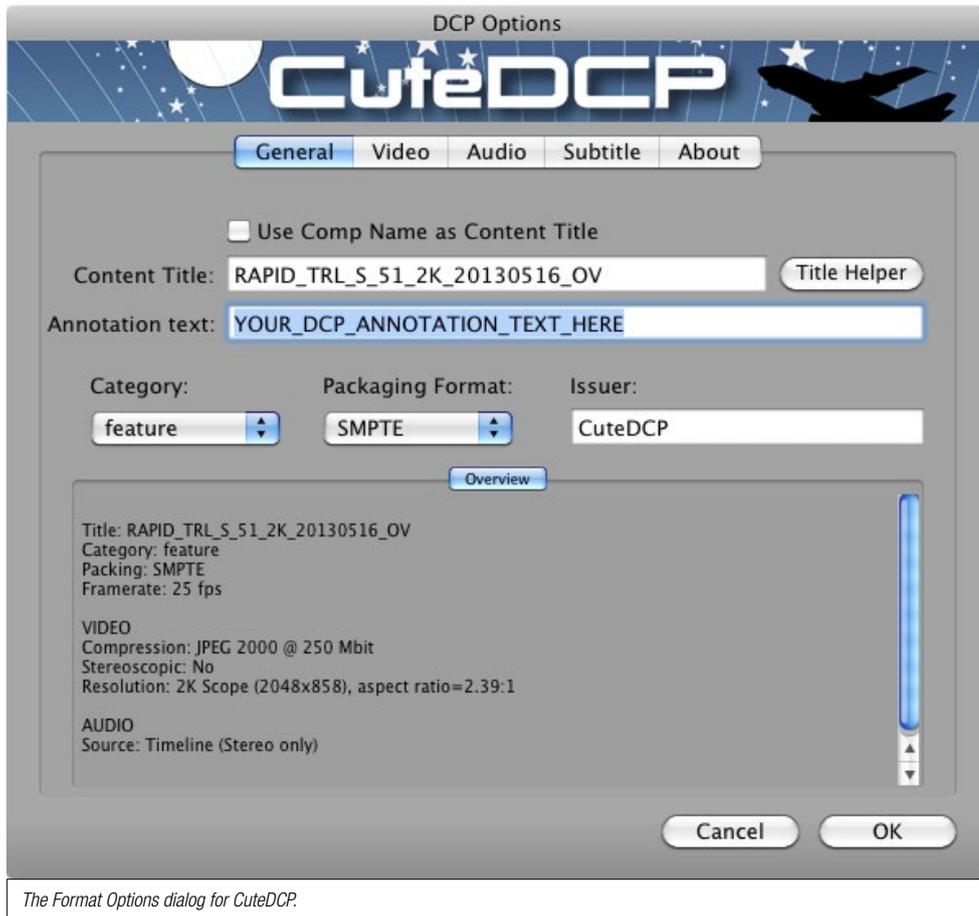
The Format Options dialog for CuteDCP.

-**Use Comp Name as Content Title**: If checked, the name of your composition will be used as
   your content tiltle.
-**Content Title**: This is the title of your DCP and this is the content title that will appear on the digital
   cinema server.
- **Title Helper**: see next page
- **Annotation text**: If you have an annotation text describing the DCP, you can type it here. (optional)
- **Category**: Select the category of your DCP. This category will be visible in the cinema server.
      Note: The category is automatically reflecting the category setting in the Title Helper.
- **Packaging Format**: There are currently two digital cinema standards in the field – the older jpeg
      2000 interOp format is gradually being replaced by the more recent DCI SMPTE standard.
      InterOp only supports frame rates of 24fps and 48 fps for 3D content.
      The newer SMPTE format supports a wide range of frame rates: 24, 25, 30, 48, 50 and 60 fps.
- **Issuer**: Type the name of the issuer here, e.g. the company name. This field is for information only.
- **Overview**: All settings saved in the 'Format Options' dialog can be viewed here.

11. Title Helper is a tool for creating Content Titles, it will help you comply with the Digital Cinema Naming Convention.

For those not familiar with the Naming Convention, it has two primary objectives:

1) to make as much information visible as possible, and

2) to display the information in a specific order, in assigned fields, so theatres will know where to look for specific information. Most of the information in these fields is abbreviated, including the movie title if necessary, and most of the abbreviations are standardized.

For more information about Digital Cinema Naming Convention, click here:
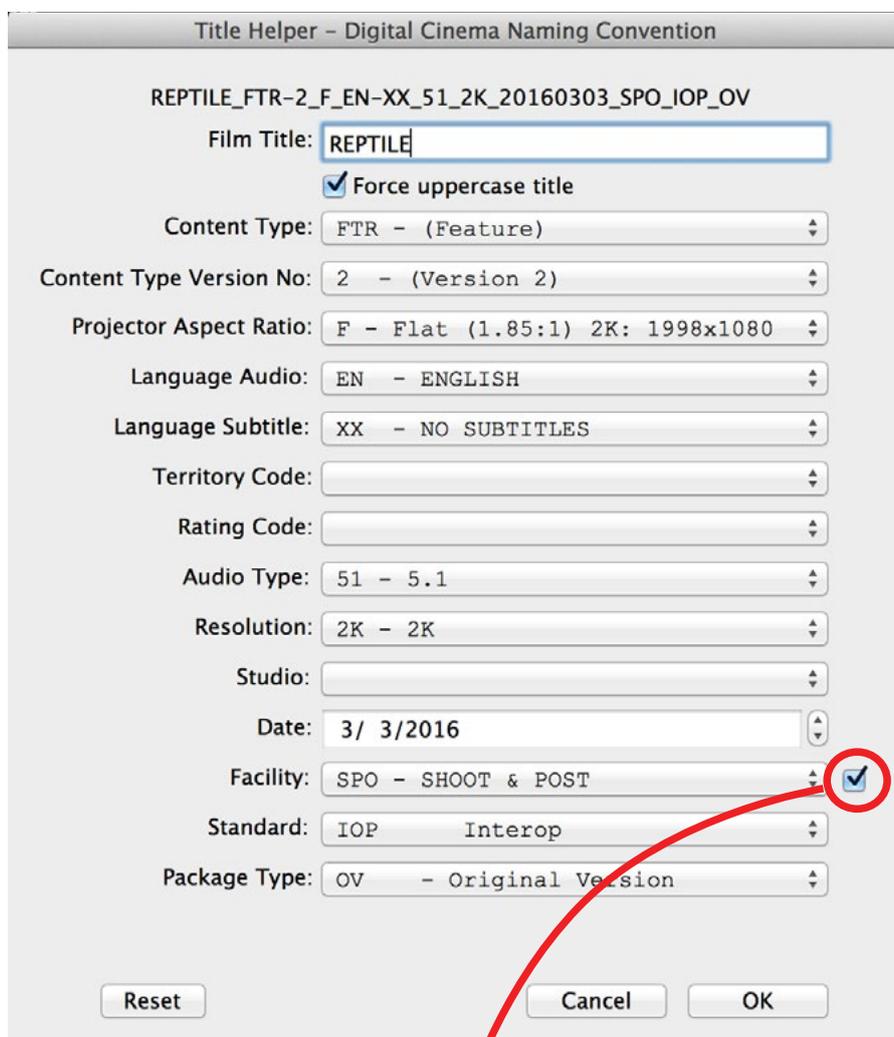
http://www.digitalcinemanamingconvention.com/

11b. When checked, TitleHelper remembers this selecttion until you uncheck it or reset the panel.

12. **Video tab**
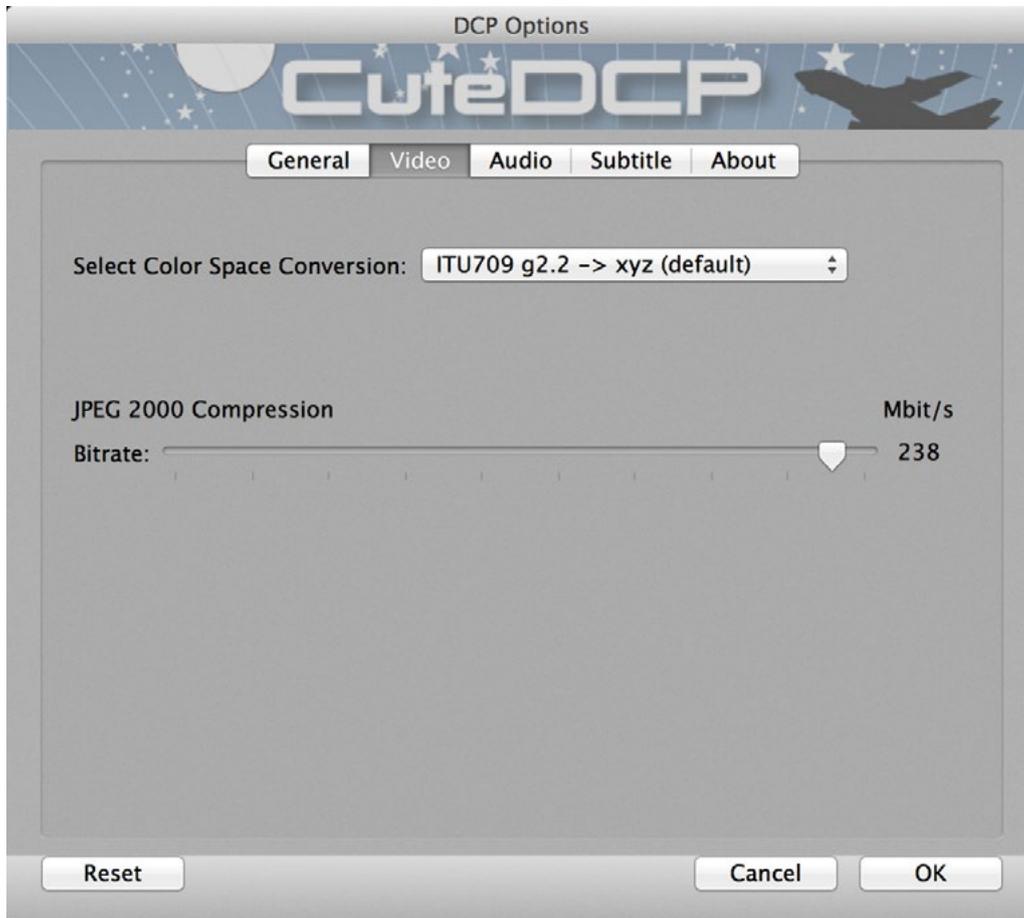
Select Color Space Conversion: In the final DCP, all images must be converted to x'y'z' colorspace.
Depending on your input material, four options for the colorspace conversion are available:
- None. No color space conversion is performed, your input material is already converted.
- ITU709 with gamma 2.2 is the default color space conversion.
- ITU709 with gamma 2.4 to x'y'z'
- P3 to x'y'z'

JPEG 2000 Compression: Adjusts your overall encoding bitrate.

13. **Audio tab**

Audio Source: When "Timeline (Stereo Only)" is selected, the DCP stereo track will be created from your timeline. Note: After Effects only supports stereo from timeline.
If "External Files" is selected, you can add a 5.1 or a 7.1 surround mix to your DCP.
The only accepted audio format is: mono wave file, 48000 Hz, 24 bit, uncompressed.

Trim in-point: Trims the in-point of the audio track in the DCP.
Useful if you want to trim off a sync beep at the beginning of your audio file.

Multi Select Audio Files: If all your audio files have been named according to the naming convention below?, only one of your surround audio files needs to be selected. CuteDCP will find the rest for you.

Example:

L – Left channel	My_AudioFile_L.wav
R – Right channel	My_AudioFile_R.wav
C – Center channel	My_AudioFile_C.wav
LFE – Subwoofer	My_AudioFile_LFE.wav
LS – Left Surround	My_AudioFile_LS.wav
RS – Right Surround	My_AudioFile_RS.wav
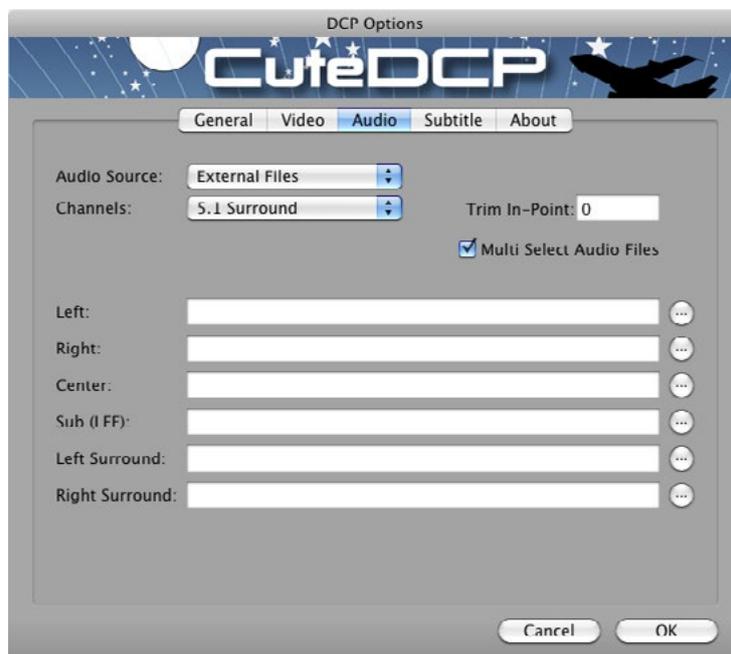
14. **Subtitle tab**

Enable Subtitle: when enabled, a subtitle track is added to the dcp.
Subtitle: Select your subtitle file here.

CuteDCP supports interop subtitles (Texas Instruments CineCanvas) and SMPTE 428-7 subtitles.
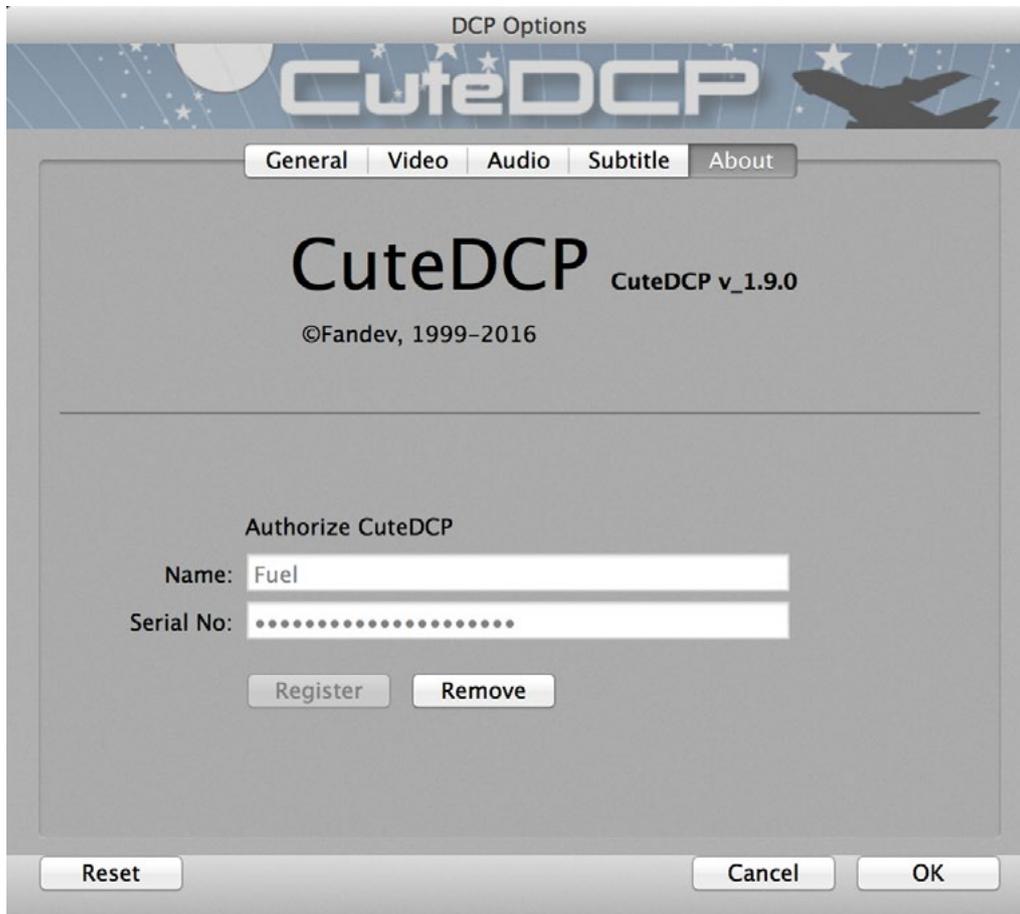CineCanvas is currently used with Interop DCP delivery.
When delivering SMPTE DCPs the subtitling format is expected to be in the SMPTE 428-7 format.
If a LoadFont tag is used in the subtitle file, the used font must also be selected.
CuteDCP will use the font file and pack it into the DCP.

Note: make sure not to use a font larger than 640KB.

15. **About tab**

In the About tab you can see what version of CuteDCP you are using. You can also authorize your purchased copy.
Just add your name and the serial number you received when the purchase was completed.

6./ Creating a 3D stereoscopic DCP

To create a 3D stereoscopic DCP you need to make some changes to your composition in order to enable CuteDCP for a 3D stereoscopic output.

1. If your footage has a e.g. flat dimension 1920x1080, you need to double the width for your sequence.

The width of the composition is changed to 3840x1080.
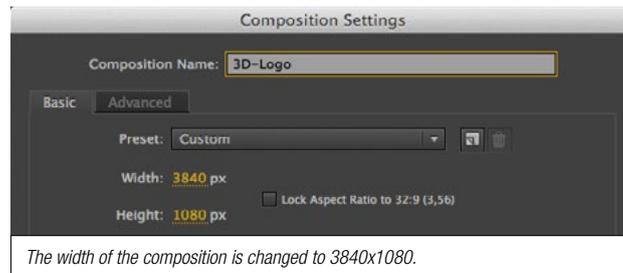
2. Next, you need to add the left and right image to the composition, position them as a side by side. The left image in sequence must be your left-eye image.

The left and right stereo image is positioned side by side.
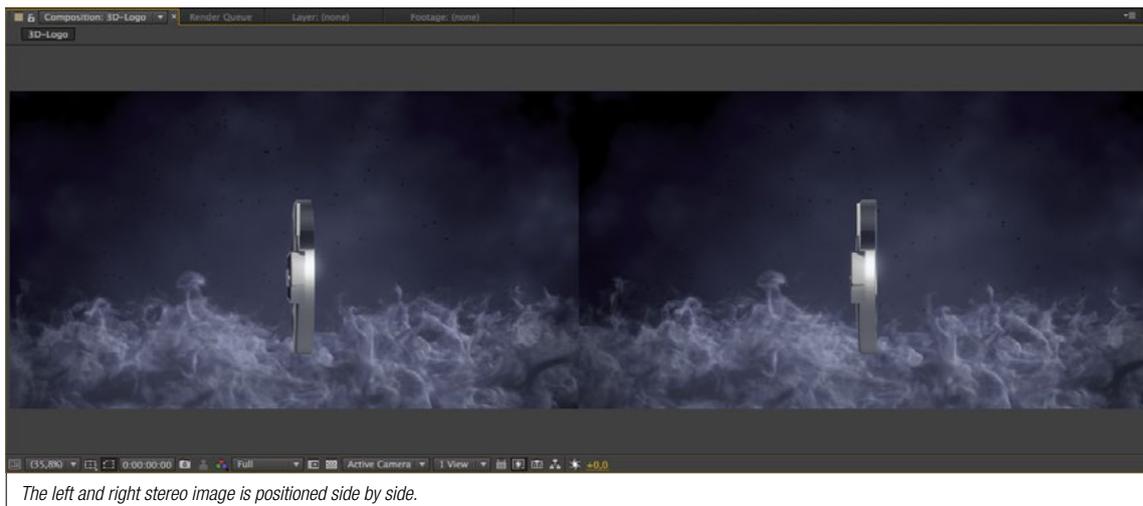
3. This is all you have to do to enable stereoscopic 3D for CuteDCP in After Effects.
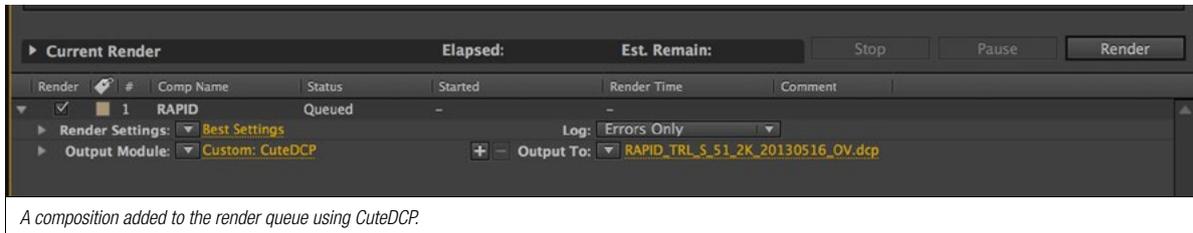
Check the table below for all available 3D stereosopic sequence sizes
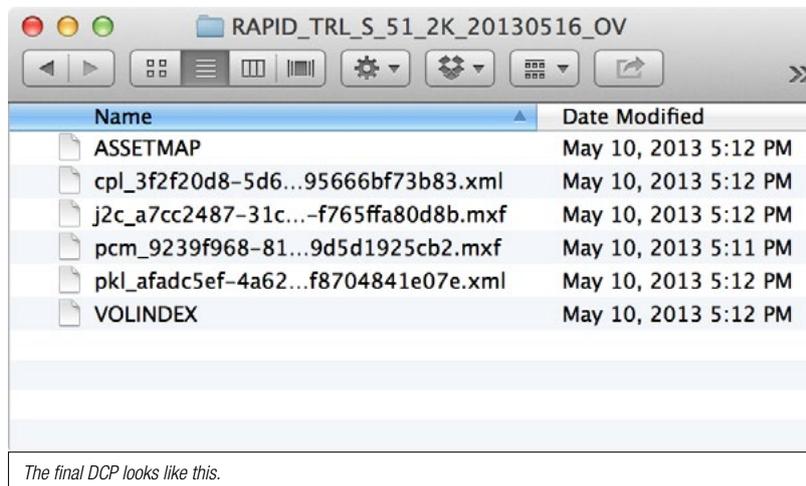
3D stereoscopic sequence sizes:
Flat   – 3996 x 1080
Scope – 4096 x 858
Full   – 4096 x 1080
HD   – 3840 x 1080

7./ Rendering the DCP

When everything has been set up, just press render to generate your DCP.

A composition added to the render queue using CuteDCP.

When rendering is complete, the result will be a folder containing various files. This is the DCP.

The final DCP looks like this.

8./ Moving the DCP to the cinema

Before copying your DCP to an external hard drive, make sure your external drive is formatted in one of the following formats: NTFS, EXT2 or EXT3
NTFS is a Windows file system.
EXT2 & EXT3 are Linux file systems.
If your drive is Mac formatted (HFS/HFS+), the cinema server will not be able to read the drive.

If you are delivering DCP using a FTP application (file transfer protocol), make sure that the transfer mode is set binary. Do not use Auto (often a default setting) or ASCII mode, if you do, these modes will add extra line ending to the xml-files and your DCP will not be ingested into cinema server.

We welcome your feedback on CuteDCP.

If you have any suggestions, problems or questions, please contact us at:
e-mail: info@fandev.com