KABOOM ANIMATION FESTIVAL



You can create DCPs with multiple software packages these days. For instance, with: Easy-DCP Creator (www.easydcp.com) or DCP-O-Matic (www.dcpomatic.com), which works with Windows, Mac and Linux.

Viewing your created DCPs is also possible with EasyDCP player or see the DCP-o-Matic player which you can download <u>here</u>.

Below is a guide for creating a DCP with DCP-o-Matic. This is a totally free programme without advertisements, but feel free to donate some money to the developer <u>here</u>! DCP-o-matic has a more comprehensive manual on <u>their website</u>.

DCP-o-Matic consists out of multiple modules you can install separately, for example: DCP-o-matic – The main software (the minimum you need to install) Player – To view your DCP (you need a very powerful computer for this) Encode Server – To distribute encoding over several computers Batch Converter – To encode multiple DCPs in a queue.

Starting a project

After installation, start DCP-o-Matic. If you have the newest version, a dialogue window will appear asking if you want to use the simple or advanced interface. This manual is about the advanced interface.

After start up you will find that the "Add files" button is still grey. You will have to create a new project first to continue.

· Click File > New. A dialogue screen will open.



• Enter the title of your project and press "Browse" to select the destination folder.

			New Film	
		Film name:		
	DCP-	Create in folder:	/Users/demo/videopslag	Browse
Content DCP		From template		0
	Add file(s)			
	Add folder		Cance	ОК
	Remove			
	Earlier			
	Later			
	Timeline			
Video Audio Subtitles Tin	ning			
Video Audio Subtitles Tir Refer to existing DCP 2D	ning	Outline conten	it O Left eye O Right e	ye
Video Audio Subtitles Tir Refer to existing DCP 2D \bigcirc	ning C	Outline conten	it OLeft eye ORight e	ye.
Video Audio Subtitles Tir Refer to existing DCP 2D \bigcirc \bigcirc \bigcirc \bigcirc	ning C C	Outline conten	it OLeft eye ORight e	ye
Video Audio Subtitles Tir Refer to existing DCP 2D \bigcirc 2D \bigcirc 2D \bigcirc	ning C C Set	Outline conten	it Cleft eye Right e	ve
Video Audio Subtitles Tir	ning C Set Set	Outline conten	nt OLeft eye ORight e	ve
Video Audio Subtitles Tir Refer to existing DCP	ning C Set Set	Outline conten	t OLeft eye Right e	ye
Video Audio Subtitles Tir Refer to existing DCP	ning C Set Set	Outline conten	nt OLeft eye ORight e	ye

Once the project is created, click on "Add files" and add your film file. Preferably add a high-quality master movie file like a ProRes422HQ, DNxHR or better. The better the file you start with, the better your final film will look like.

Add file(s)	
Add image sequence	Add video, image or sound files to the film.
Weghalen	
Omhoog	
Omlaag	

After adding the film, your interface will look something like this (depending on the version you are using).

Content DCP MG_4186.MOV [movie] Add file(s) Add folder Remove Earlier Later Timeline Video Audio Subtitles Timing Refer to existing DCP	
Type: 2D 🗘	
Crop: C Right: C Top: C Bottom: C Fade in: 0 : 0 : O Fade out: 0 : 0 : O Set	Outline content Left eye Right eye
Scale to: No stretch Edit Edit	Analyse audio OK (ran for 0:00:00)
Content video is 1920x1080 Display aspect ratio 1.78:1 Content frame rate 29.9700	Examine content OK (ran for 0:00:00)

1. DCP-settings in the DCP-tab

Select the DCP-tab. You will see all properties. In the "name" field, enter the title of your film. The number of characters is limited. Under the "ISDCF-name" check box you will see the final name of your DCP.

Under "Content type" select the type of film. (most likely "Short")

Select "Use ISDCF name" to create an official DCP-name. Click on "Details" to add additional information. Enter your initials at "Studio"and/or your company name at "Facility". Also add your film's language / subtitling-language. This makes it easier for us to understand the properties of your film. Enter as much information as possible. When in doubt, leave a field empty. For more examples see:

http://digitalcinemanamingconvention.com Click on "ok" to confirm and continue.

Below you see the framerate, which will be auto-detected depending on your movie file, so don't touch it.

Under "Container" select the aspect of the film (FLAT=normal SCOPE=Super-wide). For other aspects like 16:9 or 4:3, choose FLAT.

Under "JPEG2000 bandwidth" select something that's not too high and not too low, 184Mbit is roughly comparable to ProRes422HQ quality.

Now go to the Audio tab and under "Audio" select the number of audio channels for your film, usually 2 (stereo) or 6 (5.1 surround).

School CP-o-matic 2 File Edit Content Jobs Tools Help Content DCP Name: Title Copy as name Use ISDCF name Details... Title_SHR-1-25_F-178_EN-..._20180704_mo_SMPTE_OV Content Type: Short Signed Encrypted Key: Edit. Reels: Single reel 2 0 GB Reel length: Standard: SMPTE Upload DCP to TMS after it is made Video Audio Container: DCI Flat 1998x1080 Resolution: 2K Frame Rate: 25 0 Use best 3D JPEG2000 bandwidth 122 C Mbit/s for newly-encoded data:



		Video	Audio
Channels	2 - stereo		
	4 - L/C/R/Lfe		
rocessor	6 - 5.1		
Show auc	8 - 5.1/HI/VI		
	10		
	12 - 7.1/HI/	VI I	
	14		
	16		

É DCP-o-matic 2 File Content Jobs Tools Help DCP-o-mat DCP Add file(s).. Add folder. Remove Earlier Later Timeline... Video Audio Subtitles Timing Show graph of audio levels... Peak: -14.86dB 0.0 0 dB Calculate... Gain: 6.0 Delay: ms DCP LR

2. Audio

Go back to main "Content" tab again. And then click on the tab "Audio".

Now you can see how many audio channels there are in your audio stream. Depending on your film this is for instance, 2, 6 (5.1) or 8 (7.1) audio channels.

When there are 2 channels, check if L and R are selected in green under DCP. (see image) In the example the audio of channel 1 will go to the left and the audio of channel 2 will go to the right side.

The same applies with surround sound:

If you have 5.1 (6ch) audio or even more, you will want to create a 5.1 or 7.1 DCP. In this case, make sure to select 6 or 8 channels in step 1. Otherwise you can't assign allchannels like in the picture on the right. Make sure all 6 or 8 channels are marked green, so each audio track goes to the corresponding speaker.

We won't get into "mastering audio for cinema" here but we can make a start by making sure your film is not too loud. Click "Calculate", wait and when it's finished click "Show graph of audio levels". The audio of the film will now be analyzed. This graph is also very useful to see if all audio channels are correct and how the sound levels out across the whole film. Just play with it.

In case you see any red db's under "Peak", it means the film is very loud. So, lower the volume of the film with "Gain" until peak shows

- 3.00 dB. Even better is to master your film
- 6.00dB or
- 9.00dB to be very safe.

If you see a very low value coming out the analysis like -20.00dB your film is probably very quiet or mixed at a very low audio level.



	Video	Audio	Sub	titles	Timing
Refer to	existing DC	P			
Show grap	oh of audio I	levels	Peak:	-3.69	dB
Gain:	0.	0 0	dB	Calcu	late

Peak: -0.19dB

3. The filters menu (Content, video tab)

DCP-O-Matic gives you the possibility to add several filters. For instance, 'deinterlacing' to de-interlace interlaced footage. Only use filters when you need them.

	_		Timelin	😑 🗇 💿 Filters
Video	Audio Subtitles	Timing)	De-interlacing Motion compensating deinterlacer
Туре:	2D	0		Vet Another Deinterlacing Filter
Left crop:	0			Diverse Gradient debander
Right crop:	0			Unsharp mask and Gaussian blur
Top crop:	0			Buis reductie
Bottom crop:	0			High quality 3D denoiser
Scale to:	16:9		0	
Filters:	Geen	Edi		ОК
Colour conversion	Rec. 709	Edi	t	

4. The colour space menu

DCP-O-Matic automatically detects in which colorspace your film is when you add the files.

Commonly, at the time of writing, this is REC709 for video. In case you know for sure that it's not stated correctly in DCP-o-matic, you can adjust it here.

5. Scaling and cropping

'What you see is what you get' is the rule here.

Crop first, then scale. Cropping is the removing of unwanted parts of an image such as black bars from a letterboxed film. Once cropped to the desired image, you can scale the video to the right format. Mostly you don't need to crop. It's normal to have a few lines of black around a video, especially in footage from older cameras. Then it's better to not crop them away.

If you followed this manual correctly, you already selected a FLAT or SCOPE aspect ratio (or container size) in step 1. Check if your film looks okay now in the preview windows top right.

DCP-O-Matic will autodetect the scale of your movie! In most cases you're okay.

If you have a 16.9 (1.78 aspect) video in a FLAT DCP container, you will see black bars left and right near the video. This is correct. Because standard Flat DCPs for cinema have slightly wider (1.85 aspect) than normal full HD (1920x1080) video. It does not matter if this happens. You will not see the black bars in the final screening. It's okay!

Extra info: official cinema video formats are:

2K Flat: 1998x1080 pixels 2K Scope: 2048×858 pixels 4K Flat: 3996×2160 pixels 4K Scope: 4096×1716 pixels

"No stretch" or other settings are often used in case you need or want to (counter)correct something. Here goes the 'What you see is what you get' rule. Probably you won't need this.

Filters	None sRGB Rec. 601
Colour conversion	Rec. 709
	P3
Content video is 19:	Rec. 1886
Display aspect ratic	Rec. 2020
Content frame rate	Custom
Content and DCP hav	e the same rate.

Crop:	Left:	Ĵ	Right:	٢
	Top:	0	Bottom:	0

Crop:	Left:	C		0	Right:
	Top:			0	Bottom:
Fade in:	0	:	0	:	1.19
Fade out:	0	:	0	:	1.33 (4:3) 1.38 (Academy)
Scale to:	1.78	3 (1	6:9 c	r HC	1.43 (IMAX)
Filters:	None				1.66 1.78 (16:9 or HD) 1.85 (Elat)
	Dee	71	00		2.35 (35mm Scope) 2.39 (Scope) 1.90 (Full frame) No stretch No scale

6. Timing

You can create a clean cut with this option. Like removing unwanted Bars&Tone or Slates. If you leave them in, they will be screened in the cinema since we cannot remove them anymore when the DCP is finished.

Video Audio Subtitles Timing h : m : s : f Positie: 0 : 0 : 0 : 0 : Set Full length: 00:02:02:09 .</

7. Subtitles

If you did not already burn subtitles in your master movie, you can add a separate subtitle file here.

In the main window (content tab) you can add a subtitle file just like you added your movie before. After that you can select that file and edit its properties in the subtitles tab.

For more information about subtitling see: https://dcpomatic.com/help

Creating subtitles goes beyond the scope of this manual but there are multiple ways to create subtitles. And again, you can also burn them in your film before, without using DCP-O-Matic. See for example:

```
http://www.jubler.org
```

https://www.belle-nuit.com/belle-nuit-subtitler

http://www.nikse.dk/subtitleedit/

Make sure the subtitles are not too far below the film safety margins or they might fall off the screen. Subtitles also shouldn't be in the black-bar/letterboxed area of the screen.

To finish:

Make sure you save the project. And then choose "Jobs" under the menu to "Make DCP", to render the DCP. Depending on the speed of your computer, rendering can take some time.



A Low an Andrew				
Use subtit	les			
Burn subti	tles into i	mage		
			0	
			0	
		100	0	
		100	0	
		100	0	
			0	



Once the DCP is ready you can find it in the destination folder you selected earlier. There are multiple project files in there, but you can recognize the right DCP folder by the DCP title, which looks something like this:

Titletest_SHR-1_178-119_2K_FST-VLI_20171204_IKKE_SMPTE_OV

Only take this folder from your project and send this entire folder to the film festival. Keep the files in it and naming as it is. Don't rename the DCP folder! You may zip the folder if desired.

When uploading on services like GoogleDrive please make certain to zip everything, otherwise we'll have trouble downloading the DCP.

When sending by post use USB, SD-Card, hard disk or optical disc. Be aware cheap optical discs and high burning speeds tend to be a risk of failure once ingesting it in the cinema. So please use a high-quality transport medium like a Verbatim data-DVD or data-Blu-ray, and a low burning speed with data check. Data-Blu-Ray's (not video Blurays!!!) are cheap and offer 50-128GB of space. Another option is to send us a hard disk, but please make sure it's very well packed - package drops will cause hard disks to break, so USB is better. Also make sure it has a USB or SATA connection.

Naa	am	Bewerk
•	🚞 analysis	Vandaa
►	info	Vandaa
•	Title_SHR-1-25_F-17880704_mo_SMPTE_OV	Vandaa
►	i video	Vandaa
	ffprobe.log	Vandaa
	COVER_SHEET.txt	Vandaa
	🖹 metadata.xml	Vandaa
	log	Vandaa