



GUIDELINES FOR FILM TO BE SHOT ON PAL VIDEO-FORMAT GENERAL INFORMATION (1)

SWISS EFFECTS guarantees that its printing system will transfer all relevant material with high quality 2K and 4K resolution. Considering these guidelines during all production stages will substantially improve the quality of the transfer.

Production

- Keep the film format in mind:
- The video format 4:3 can be reproduced on film without image loss as the full format 1:1,33 (less common) or in an aspect ratio of 1:1,66 with black borders left and right.
- This video format can also be projected in the two cinema formats 1:1,66 or 1:1,85, but there will be some image loss at the top and the bottom of the frame.
- The video format 16:9, which corresponds with an aspect ratio of 1:1,77, can be projected in the cinema only in the formats 1:1,66 or 1:1,85, with a slight loss of image at the top and bottom or at the sides of the frame.
- For the formats 1:1,66 and 1:1,85 using the anamorphic video format 16:9 will result in a substantial increase in image quality.
- Keep in mind that the image will be cut by about 2.5% on all sides by the film projector (the so-called "projection cache"). This is especially important for the positioning of titles and subtitles.
- Choose the video format that best meets your needs. We have ranked them in 3 levels of quality. Within these categories, the differences are minimal and depend on your subjective judgement.
- What you see in the viewfinder of your camera can be quite different from the whole video picture. We strongly recommend checking your camera viewfinder with a professional Monitor (Underscan-Monitor).

1. Good	2. Better	3. Best	HD
SVHS	Beta SP	D1, D5, DCT	HD Cam
HI-8	M II	Digibeta	DVC Pro HD
	DVC-Pro 25	DVC-Pro 50	
	DV-Cam	Digital S	
	DV	Beta SX	
	Digital 8	IMX	

Not taken into consideration in this ranking are the respective camera types, which can substantially affect the picture quality. For example, the older Beta SP cameras deliver a less satisfactory result than some of the new DV cameras.

Camera Adjustment

- Lower the detail setting
- Switch on the DCC (dynamic contrast control)
- The shutter speed should not be faster than 1/50, as differences in field sharpness affect the quality of the field interpolation during transfer

- Switch off the digital zoom whenever possible
- Try not to use electronic picture stabilizers, only optical ones.
- Note our suggestions on camera set-ups for specific shot types
- Avoid rapid camera movements with stationary objects. As with film cameras, this can cause a shutter or smearing effect visible only after the transfer to film.

Don't hesitate to contact one of our specialists for advice or possible tests, in order to choose the best set-up for shooting and avoid unpleasant surprises.

Post-Production

- For post-production, choose an uncompressed component system (Beta-SP, M II), in the digital range if possible (Digi-Beta, D1, D5, DCT). The D2 system is not suitable for the transfer process.
- Old analogue and amateur formats (VHS, Hi-8, Beta-Max, Umatic) should be transferred in Y-C format with TBC's and Noise Reduction onto a digital component format. The "Prisma" from Snell & Wilcox is particularly good at converting this signal.
- Animation and speed changes (slow and fast motion), as well as moving titles, must be produced in frame mode (frame integrity).
- During colour grading watch out that you don't crush the levels (in black and white). For changes in contrast, we recommend working with the gamma value.
- To achieve a saturated and "film-like" black we recommend to NOT crush the blacks in production or post but to keep the contrast in the shadow areas soft in order to adjust the blacks during color correcting at the negative to print stage. In general this gives better results while keeping the most information possible on your video material.
- Please note: because images are greatly enlarged during cinema projection, all effects are much more visible on the cinema screen than on the monitor.

Even with carefully colour-graded video masters, further colour-timing of the film negative is necessary. In some cases, a second corrected print will be necessary.

We recommend doing a test, so that changes occurring during post-production can be examined on the cinema screen and the necessary changes made in time.

Clients have the option of downloading a special EDL program (EXCEL-Macro) which makes it possible to generate a sample frame version of your original edit which contains 2 - 10 frames of each shot. This can help simplify colour timing in the film lab. Some knowledge of computers is required for using this program.

- Put sync marks for image and sound tracks ("start" frame and sound beeps) on each reel, and preferably at the end of the reel as well.

Example for reel start:

- sync mark at TC 00:00:58:02
- program start at TC 00:00:01:00
- The maximum usable length of a film reel is 590m, which corresponds to a program length of 20 minutes on 35mm and 52 minutes on 16mm.

PLEASE NOTE:

The standard running speed for film projection (24 fps) extends the length of a transferred video by 4%. This does not affect the pitch of tone.

GUIDELINES FOR CINEMA – PRODUCTION USING THE NTSC VIDEO – FORMAT (2)

SWISS EFFECTS guarantees that its printing system will transfer all relevant material with high quality 2K and 4K resolution. Considering these guidelines during all production stages will substantially improve the quality of the transfer.

Production

- Choosing the correct picture format i.e framing. The following formats are possible for the cinema:
1:1.66 and
1:1.85 (see Info Sheet).
- The video-format 16:9 (1.77 anamorphic) enables a much better picture quality.
- Choosing the right videotape formats: We differentiate between 3 levels of quality. Within these respective levels, the differences are minimal and are therefore also subjectively assessed.
- What you see in the viewfinder of your camera can be quite different from the whole video picture. We strongly recommend checking your camera viewfinder with a professional Monitor (Underscan-Monitor).
- Keep in mind that the image will be cut by about 2.5% on all sides by the film projector (the so-called "projection cache"). This is especially important for the positioning of titles and subtitles.

1. Good	2. Better	3. Best	HD
SVHS	Beta SP	D1, D5, DCT	HD Cam
HI-8	M II	Digibeta	DVC Pro HD
	DVC-Pro 25	DVC-Pro 50	
	DV-Cam	Digital S	
	DV	Beta SX	
	Digital 8	IMX	

Not taken into consideration are the respective camera-heads, all of which can substantially affect the picture quality. The older Beta-SP cameras, in particular, deliver a less-acceptable result than today's new DV cameras. Aligning the video-camera:

Camera Adjustment

- Lower the detail setting
- Switch on the DCC (dynamic contrast control)
- The shutter speed should not be faster than 1/60
- Switch off the digital zoom
- Don't use the electronic picture stabilizer (the optical stabilizer is okay).
- See the Info Sheet for specific information about the different camera types

Making a pre-production consultation with Swiss Effects technicians and/or test transfers using the desired setup helps find a good camera exposure and avoids unpleasant surprises.

- For still wide-angle shots: using the EVR (enhanced vertical resolution) is an option with certain cameras.

- The camera movement should not be too fast in places where the object is stationary or moving in the opposite direction. Otherwise, as with film -cameras, this will give a shutter or smearing effect visible only after the transfer to film.
- Using the 50Hz PAL format provides a noticeably better quality.

Postproduction

- The entire post-production should take place on an uncompressed digital component system. A single compression up to a maximum of 1:2 can not be visually perceived. D2 is not suitable for post-production.
- Every successive analogue copying-process entails a loss of quality.
- Old analogue and amateur formats (VHS, Hi-8, Beta-Max, Umatic) should be transferred in Y-C format with TBC's and Noise Reduction onto a digital component format. The "Prisma" from Snell & Wilcox is particularly good at converting this signal.
- Changes to speed (speed up/speed down) could lead to undesired jerky movements on the transfer.
- During colour grading watch out that you don't crush the levels (in black and white). For changes in contrast, we recommend working with the gamma value.
- Please note that because of the larger size of the picture in the cinema, almost all the effects increase in their intensity.
- The maximum length of each film reel is 20 minutes and 30 seconds. Cut points should be chosen where there is a clear change, it's dramatically logical and should not have any ongoing ambient sound or music.
- To achieve a saturated and "film-like" black we recommend to NOT crush the blacks in production or post but to keep the contrast in the shadow areas soft in order to adjust the lacks during color correcting at the negative to print stage. In general this gives better results while keeping the most information possible on your video material.

Transfer

- To guarantee synch-sound, the sound will be transferred by us onto a coded DAT even if we are not producing the sound release negative.
- Moving titles, especially roll titles, are in most cases not suitable for transfer and should be made separately on film. We can provide this service.
- With special wishes for contrast, color saturation etc, it pays to make a test tape of the most important sequences in advance so that different variations can be transferred.
- Even with a high quality color-graded Video Master, it is often necessary to do color grading in the film-lab. A second print may be necessary.
- Please note that as film is projected at 24fps and NTSC video is shot at 30fps, there is a 4% increase in film length over video length. This does not affect the pitch of tone.

INFO SHEET VIDEO - TO - FILM TRANSFER

CAMERA SETUP (3)

PANASONIC DVX 100
DVX 100A see Tape to Film

PANASONIC SDX 900 Please contact us

SONY IMX Please contact us

SONY DRC VX 1000
and VX 9000
DSR 200


SHUTTER OFF
D ZOOM OFF

Custom Set-up:

SET ON

COLOUR LV 

SHARPNESS  2

WB SHIFT 

AE SHIFT  -1

GAIN SHIFT - 3 db  -3 db

SONY DVV D600
DVW 700 (LEVEL 1/9)

Min. Max.

DETAIL LEVEL -8 -30

V DTL LEVEL 0 0

H DTL FREQ 0 4

V DTL BLACK CLIP 0 0

DTL WHT CLIP	0	3
DTL BLACK CLIP	0	18
CRISPENING	0	0
LEVEL DEPEND	0	0
KNEE APERTURE	0	-3
APERTURE LEVEL	0	+2

PANASONIC AJ-D900
and some other
DVCPRO cameras
(L/M/H SETTING Screen)

	Min.	Max.
MASTER GAIN	0	0
H DTL LEVEL	8	3
V DTL LEVEL	8	5
DTL CORING	2	2
H DTL FREQ	5	5
DARK DTL	0	2

SONY DRS 500 WSP
DRS 570 WSP

DTL LEVEL	-15	-50
DTL FREQ	H "HIGH"	HH "HIGHHIGH"
VDTL LEVEL	0	0
BLACK STRECH	0	+8
M BLACK	0	-1
M GAMMA	0	+5
DL (DynaLatitude)	ON and sensitivity on "LOW"	

CANON XL1 No adjustment possible.
XL1S Do not use the 16:9 mode.

SONY PD 100 No adjustment possible.
VX 900

SONY PD 150 Custom preset:
PD 170

SET OFF (It isn't necessary to lower the detail
with this camera)

AUTO SHTR OFF

PROG SCAN OFF

D ZOOM OFF

It is possible to use an optical anamorphic 16:9 adapter.

For further questions and information about other camera
models please contact us

INFO SHEET VIDEO - TO - FILM TRANSFER ASPECT RATIOS AND VIDEO FORMATS FOR THE CINEMA SCREEN (4)

Original Format 1:1,33 (4:3)
Film Format cut out = 1:1,66



Original Format 1:1,33 (4:3)
Film Format = 1:1,66 with curtain



Original Format 1:1,77 (16:9)
Film Format cut out = 1:1,85



Original Format 1:1,77 (16:9)
Film Format = 1:1,85 with curtain



Original Format 1:1,77 (16:9)
Film Format cut out = 1:1,66



Images: Felix von Muralt