

## Digital File Submission Guidelines for CMF programming destined for the LAC

### Summary:

The following digital video file formats are acceptable to transfer to the LAC:

- Uncompressed 4:2:2 in a Quicktime .MOV file wrapper  
or
- An **unencrypted** DCP (Digital Cinema Package), if appropriate or available for a given production (compliant to SMPTE 429/Interop guidelines)  
or
- ProRes 4:2:2 HQ in a Quicktime .MOV file wrapper

The following file package shall be provided for any program submitted for deposit at the LAC:

Quantity	Description	File Extension(s)
1	Video/Audio file	.MOV
1	Closed Caption File (if present)	.SCC or .SRT
1	Metadata File	.XML
1	Checksum digest file	.CSV or .TXT
All submitted files should be identically named: (Example) <ul style="list-style-type: none"><li>• ProgramTitle_S01_E01.mov</li><li>• ProgramTitle_S01_E01.scc or .srt</li><li>• ProgramTitle_S01_E01.xml</li><li>• ProgramTitle_S01_E01.csv or .txt</li></ul>		
Descriptive elements in the filename should only be separated by an underscore. The use of any special characters, accents or spaces is prohibited. The length of a filename should not exceed 80 characters.		

***\*\* In order to meet standard specifications, DCP submissions must follow the folder, naming and package structure as dictated by SMPTE 429/Interop guidelines and are therefore exempt from the above table of components. All DCP submissions must be UNENCRYPTED.***

### HD VIDEO

ESSENCE	
Video - HD	1920x1080, 1280x720 with 8 or 10-bit quantizing
	Colour space compliant with Rec. ITU-R BT.709
Video Codecs	Uncompressed 4:2:2 or Apple ProRes 422 HQ
File Wrapper	.MOV

Frame rate/Aspect Ratio/Scan Type	Original frame rate and aspect ratio (16:9, 4:3, etc.) of the mastered production. Do not up-convert Standard Definition productions to HD.
	Frame rates accepted: 23.976p, 24p, 25i, 25p, 29.97i, 29.97p, 30p, 60p
	Frame rate should remain constant throughout the program
Audio	Discrete audio, Linear PCM, 48khz, 24-bits
	Program reference level at -20dBFS (SMPTE RP 155:2004) which corresponds to an alignment level of +4dBu.
	Minimum 2 tracks (stereo) up to 6 tracks (5.1).
	Discrete audio channel mapping: Channel 1 – Left Front (or left channel for a stereo mix) Channel 2 – Right Front (or right channel for a stereo mix) Channel 3 – Centre Channel 4 - LFE Channel 5 – Left Surround Channel 6 – Right Surround Channel 7 - Descriptive Video Left Channel 8 – Descriptive Video Right
	If Descriptive Video is not applicable, a stereo mix of a multi-channel program is required on tracks 7 and 8
Timecode	Present and continuous from beginning to end. Programs at a frame rate of 29.97fps should use “drop frame” mode.

## SD VIDEO

ESSENCE	
Video - SD	720 x 486 (4:3 or Anamorphic 16:9 SD), 4:2:2 with 8 or 10-bit quantizing
	Colour space compliant with Rec. ITU-R BT.601
Video Codecs	Uncompressed 4:2:2 or Apple ProRes 422 HQ
File Wrapper	.MOV
Frame rate/Aspect Ratio/Scan Type	Original frame rate and aspect ratio of the mastered production. Do not down-convert High Definition productions to SD.
	Frame rates accepted: 23.976p, 25i, 25p, 29.97i, 29.97p
	Frame rate should remain constant throughout the program
Audio	Discrete audio, Linear PCM, 48khz, 24-bits
	Program reference level at -20dBFS (SMPTE RP 155:2004) which corresponds to an alignment level of +4dBu.
	Stereo mix
	Discrete audio channel mapping: Channel 1 – Left Channel 2 – Right Channel 3 - Descriptive Video Left (if applicable) Channel 4 - Descriptive Video Right (if applicable)
Timecode	Present and continuous from beginning to end. Programs at a frame rate of 29.97fps should use “drop frame” mode.

## CLOSED CAPTION FILE:

When closed captioning is present, a separate closed caption file shall be included. The time code of the associated closed captioning file must match the video time code of the submitted digital program files. Acceptable closed caption file formats are:

Scenarist Closed Caption → .SCC

SubRip Subtitle file → .SRT

## METADATA FILE:

Every delivered file package should include an .xml metadata file that contains a consistent, basic set of descriptive information about the program which complies with XML 1.0 specifications. At present, the LAC has not implemented a unified media asset management system or defined a specific .xml schema for descriptive metadata. In the interim, the following template (based on the suggested template in use by the CBC for program submissions) should be used:

```
<?xml version="1.0" encoding="utf-8" ?>
<PROGRAM_METADATA>
<Program_title>Program Title</Program_title>
<Series_name>Series Name</Series_name>
<Episode_title>Title</Episode_title>
<Episode_season_number>season number</Episode_season_number>
<Episode_number>number</Episode_number>
<Producer_name>name</Producer_name>
<Producer_contact>contact</Producer_contact>
<!-- Program length in H:M:S-->
<Program_length>00:00:00</Program_length>
<!-- Program audio type (stereo or multichannel)-->
<Main_program_audio_type>multichannel</Main_program_audio_type>
<!-- Audio track mapping (including DV if present)-->
<Audio_track_mapping>
<Audio_track_1>L</Audio_track_1>
<Audio_track_2>R</Audio_track_2>
<Audio_track_3>C</Audio_track_3>
<Audio_track_4>LFE</Audio_track_4>
<Audio_track_5>LS</Audio_track_5>
<Audio_track_6>RS</Audio_track_6>
<Audio_track_7>DV</Audio_track_7>
<Audio_track_8>DV</Audio_track_8>
</Audio_track_mapping>
<!--Closed Captions (Yes or No)-->
<Closed_Captions>Yes</Closed_Captions>
<!-- Original aspect ratio (4:3 or 16:9)-->
<Original_aspect_ratio>4:3</Original_aspect_ratio>
<!-- Described video (Yes or No)-->
<Described_video>Yes</Described_video>
</PROGRAM_METADATA>
```

**CHECKSUM DIGEST FILE:**

All file packages will include a checksum digest file that lists a summary of checksum values for every file submitted. The checksum algorithm to be used is **MD5** and the summary digest file should be formatted in .csv (comma-separated value) or in a .txt file with a clear and consistent text-delimited schema.

**FILE DELIVERY:**

File packages are to be submitted on external, ruggedized hard drives that support USB 3.0 interface standards. Hard drives should be formatted for NTFS (with the exception of DCP's which could also be submitted on hard drives formatted for Linux EXT2/3 as it is one of the universally accepted formats for ingest into digital cinema server systems). Multiple programs from the same producer and/or series can be submitted on the same hard drive. Hard drives will not be returned.