

# California Audiovisual Preservation Project (CAVPP)

## Statement of Work

February 2016

### Project Description

Funded in part by the National Endowment for the Humanities, the Institute of Museum and Library Services and the California State Library, and administered by the California Preservation Program, the California Audiovisual Preservation Project's (CAVPP) mission is to digitize and preserve historical California audiovisual materials.

Several sources of funding are enabling the CAVPP to build a partnership with California libraries and archives to select, digitize, preserve, and provide access to historical California audiovisual materials via the Internet Archive. The current goal is to digitize a group of 1,000 recordings on various formats (video, audio and film) drawn from multiple libraries and archives that will provide descriptive and rights metadata, as well. The CAVPP will coordinate the work among the participating libraries and archives, the digitization vendor, and the digital repositories.

To see a list of the CAVPP's current partner institutions and visit the existing *California Light and Sound* collection, please go to: [californialightandsound.org](http://californialightandsound.org).

We sent the call for nominations this summer, but we do not yet have the final selection of recordings to be digitized and we do not know the condition of the materials. We anticipate we will receive the following formats in batches from the participating institutions:

Video: 2", 1", ½" open reel, ½" VHS, ¾" U-Matic (NTSC)

Audio: ¼" open reel, audiocassette, phonographic record, wire

Film: 16mm, Regular 8mm, Super 8mm (camera originals and prints)

We estimate that we will need lab services to digitize at least 1,400 audio, film and video items. The CAVPP, with partner participation, will check quality and ensure integrity of the new digital files.

The digitization work needs to be accomplished within two months of receipt of a shipment of original recordings. We anticipate you will receive batches of original materials for digitization starting February, 2016.

All correspondence related to this project should be directed to: Pamela Jean Vadakan, Preservation Department, 20 Doe Library, University of California, Berkeley, CA 94720, 510.642.4665, [pamelaje@berkeley.edu](mailto:pamelaje@berkeley.edu)

## Project Work Plan: Technical Specifications

### File Format Specifications for Digital File Instantiations- Preservation Master and Access Copy

Audio – all sound sources:

- Preservation master: Broadcast .wav - 24 bit, 96 kHz, 2,304 Kbps for mono, 4,608 Kbps for stereo. L and R channels interleaved.
- Access copy: mp3, 160 Kbps for mono – 320 Kbps for stereo, 44.1 kHz. L and R channels interleaved.
- Broadcast .wav files should not exceed 3 GB per file. Please split files so they fit within these parameters and name the split files as parts.
- For born digital sources, maintain original specifications and embedded metadata.
- Approximate size: 47 MB, mono and 94 MB, stereo for a 40 min. recording

Video – all moving image sources:

Preservation master

- File format: .mov, 10 bit uncompressed (4:2:2), QuickTime wrapper
- Stream bitrate: -226 Mbps (sound) / -224 Mbps (silent) – preferably fixed
- Codec: v210
- Frame width: 720 pixels; Frame height: 486 pixels
- Frame rate: 29.97 fps
- Display aspect ratio: 4:3
- Standard: NTSC
- Color space: YUV
- Audio: PCM, 2,304 Kbps stream bitrate, 2 Channels, 48kHz sampling rate, 24-bit depth\*
- For born digital sources, maintain original specifications and embedded metadata.
- Approximate size: 102 GB for a 60 min. recording

\*If video source has more than two channels of audio, capture all channels.

Access copy

- File format: .mov, H.264 MPEG-4 Part 10
- Stream bitrate: 3.5 Mbps minimum – 4 Mbps maximum – preferably fixed at 3.5 Mbps\*
- Codec: avc1
- Frame width: 720 pixels; Frame height: 540 pixels (minimum)\*\*
- Frame rate: 29.97 fps
- Display aspect ratio: 4:3
- Standard: NTSC
- Color space: YUV
- Scan type: progressive
- Bit depth: 8 bits
- Audio: AAC, 160 Kbps stream bitrate, 2 Channels, 48 kHz sampling rate
- Approximate size: 1126 MB for a 60 min. recording

\*Raise minimum data rates for audio and video to ensure video level remains at 3.5 Mbps or higher and audio data rate remains at 160 Kbps or higher.

\*\*Frame size is according to the Internet Archive's preferred specs in order to display video as "HD". Dimensions can be increased as long as original aspect ratio is maintained.

## Technical Requirements

The vendor will photograph original recording and container if possible. The vendor will inspect, prepare and transfer the recording according to CAVPP specifications and will create a technical evaluation form about the transfer that includes any errors found on the original source.

The **vendor will contact the CAVPP if any treatment is necessary such as repair or baking**, and if treatment costs will exceed the initial estimate per item, so that the CAVPP can ask the partner institution for permission to proceed.

Audio and video setup must be performed for each original source to ensure that the content is captured faithfully and accurately with no information loss or degradation. Film and video sources will be transferred as best light with luminance values within “legal” limits of the waveform monitor scope (below 110 IRE or above 7.5 IRE). Luminance, chrominance and tone should be adjusted to the bars/tone if present on source tapes; if not present levels should be adjusted to the content of the tape using known references (such as blue sky, known blacks and whites, flesh tone, etc.) without any clipping or crushing. For audio sources, minimize headroom by maintaining peaks around -6 db. Boost by 5 db as needed, as long as it does not cause distortion and potential clipping. If a recording is particularly quiet and has no machine or room noise, boost by 10 db. No image/sound processing should be introduced to the signal chain at any point in the creation of preservation masters. This includes, but is not limited to, dropout compensation, noise reduction, audio equalization, limiting and filters.

Fully monitored 1:1 transfers are ideal; but if possible, batch transfers are preferred to help keep project costs low.

Please begin all files with 00:00:00;00 timecode.

Please retain the sound configuration of the original source recording – left and right mono as left and right mono and left and right stereo as left and right stereo. Retain mono audio sources as mono/single channel – do **not** split the sound into left and right channels. For film and video sources with mono sound – **do** split the sound into left and right channels as split mono. If two channel sound is skewed low on one channel or one channel is unlistenable – **do** split the best level channel into left and right channels as split, balanced, mono.

Please do not capture the audio track (or delete it) if the original film or video source is silent.

Please create consistent heads and tails for all files, with ten seconds of silence at heads and tails for audio recordings and ten seconds of black leader at heads and tails for video recordings.

For born digital sources, such as MiniDV tapes, maintain original specifications and embedded metadata for the preservation master. For disc media, create a disk image capture of the file for the preservation master. Then please derive an access file from the preservation master according to specifications above.

## Preview Before Ingest

The vendor will contact the CAVPP immediately if there are any discrepancies between the descriptive metadata supplied and the content of the recording or if duplicate content exists.

In some cases the content of a recording is unknown – there is little or no description available and playback is impossible. We would appreciate the option of previewing the content before digital capture. We will note such cases in the metadata and shipping letter and physically mark the recording as well.

The CAVPP's focus is to preserve archival, non-commercial, Californiana. If upon preview the vendor discovers that content falls beyond this criteria, please do **not** capture the recording and contact the CAVPP immediately for further

instruction. The CAVPP will consult with the partner archive if there is a possibility the other content may be significant and worth transferring. Otherwise, the CAVPP prefers to transfer only California content. To conserve data storage space, please do **not** capture, or later delete, the signal or frequency if it is not substantive and without potential research value, such as ambient room noise, silence/blank side of a tape, or blue frames (for example). The vendor will contact the CAVPP with questions as such cases are discovered upon initial ingest.

## **Subcontracting**

All digitization will be done on the vendor's premises. No subcontracting of this work will be permitted without prior communication and approval from the CAVPP.

## **XML Metadata**

The vendor will deliver one metadata record per media object in the [PBCore](#) schema (v.2.0) that combines descriptive, rights and administrative metadata supplied by the CAVPP along with technical metadata supplied by the vendor that tracks equipment information used for digitization as well as transfer and quality control notes. Please see CAVPP's [Metadata Fields](#) for a complete list of required fields per media object.

Sample model PBCore records:

Simple Moving Image Recording (one reel or tape):

[www.archive.org/download/cusb\\_00002/cusb\\_00002\\_PBCore\\_model.xml](http://www.archive.org/download/cusb_00002/cusb_00002_PBCore_model.xml)

Simple Sound Recording (one tape):

[www.archive.org/download/cabeuroh\\_00001/cabeuroh\\_00001\\_PBCore\\_model.xml](http://www.archive.org/download/cabeuroh_00001/cabeuroh_00001_PBCore_model.xml)

Complex Moving Image Recording (multiple reels or tapes):

[www.archive.org/download/cusb\\_00001/cusb\\_00001\\_PBCore\\_model.xml](http://www.archive.org/download/cusb_00001/cusb_00001_PBCore_model.xml)

Complex Sound Recording (multiple tapes):

[www.archive.org/download/cbgtu\\_00001/cbgtu\\_00001\\_PBCore\\_model.xml](http://www.archive.org/download/cbgtu_00001/cbgtu_00001_PBCore_model.xml)

## **Embedded Metadata**

The vendor will ensure embedded technical metadata is readable by Media Inspector for all file instantiations, including file size, duration, frame size, codec, number of audio channels and total bit rate for video sources and file size, duration, file type, number of audio channels and total bit rate for audio sources.

The vendor will embed descriptive metadata supplied by the CAVPP for each preservation and access file, including:

- Title
- Year
- Holding Institution
- California Audiovisual Preservation Project (CAVPP)
- Copyright Status - if known - Public Domain or Copyrighted (first two sentences of the copyright statement)

We adapt the following fields to accommodate this information, embedding manually, but ideally this would be an automated process. Please let the CAVPP know how you plan to do this step.

## **VIDEO**

command J in Quicktime

Title: include parts - title - part # of # - if more than 10 parts format as part 01, 02 etc) Year: format yyyy-mm-dd

Information: Institution

Comment: California Audiovisual Preservation Project (CAVPP)

Copyright: If known, include only the first 2 sentences of copyright statement. If unknown, do not include this field.

## AUDIO

command I in iTunes

\*Include Track Numbers

Title: include parts i.e. title - part # of # - include part 1 of 1 - if more than 10 parts, format part numbers as part 01, 02 etc.

Year: yyyy only

Comment: Holding Institution -- California Audiovisual Preservation Project (CAVPP) – Copyright Statement if known, include only the first 2 sentences of copyright statement. If unknown, do not include this statement.

## File naming and directory specifications

File names are based on the Object Identifier number (ie clgam\_00001), which includes the owning institution's Marc organization code followed by a unique, sequential number. The source identifier serves as the prefix for all digital file instantiations that represent the media object. Please see metadata spreadsheet supplied by the CAVPP per shipment for Object Identifiers.

- Label preservation masters ObjectIdentifier\_prsv plus extension (i.e. cusb\_00001\_prsv.mov).
- Label video access files ObjectIdentifier\_access.HD plus extension (i.e. cusb\_00001\_access.HD.mov). The '.HD' should not be included in the names of audio files (i.e. ObjectIdentifier\_access.mp3).

If an audio or video object consists of multiple tapes, add “\_t#” to the file name (i.e. cusb\_00001\_t01\_prsv.mov; cusb\_00001\_t02\_prsv.mov, etc.)

If a film object consists of multiple reels, add “\_r#” to the file name (i.e. cusb\_00001\_r01\_prsv.mov; cusb\_00001\_r02\_prsv.mov, etc.)

If an object consists of multiple sides, add “a” or “b” to the file name (i.e. cusb\_00001\_a\_prsv.mov; cusb\_00001\_b\_prsv.mov, etc.)

If an object consists of multiple tapes or reels and multiple sides file names should be labeled i.e. cusb\_00001\_t01\_a\_prsv.mov; cusb\_00001\_t01\_b\_prsv.mov, cusb\_00001\_t02\_a\_prsv.mov; cusb\_00001\_t02\_b\_prsv.mov, etc.

If there's a need to break up an object into multiple parts (if the duration goes beyond the file capacity; a work is multi-tracked or speed changes in the middle of a recording), add “\_p#” to the file name (i.e. cusb\_00002\_p01\_prsv.wav, cusb\_00002\_p02\_prsv.wav, etc.)

If a tape/reel includes a blank side, or duplicate content is discovered on a tape/reel and later deleted, please drop the reference to the deleted side(s) or tape(s) in the file names and re-label remaining files accordingly.

Label .md5 checksums in the following manner:

File name: cusb\_00001\_prsv.mov

Checksum: cusb\_00001\_prsv.mov.md5

Label .jpg of the original recording in the following manner:  
cusb\_00001.jpg

If more than one picture is taken of the recording, label .jpg(s) in the following manner:  
cusb\_00001-1.jpg; cusb\_00001-2.jpg; cusb\_00001-3.jpg; etc.

The directory structure for the digital files and the supporting metadata and documents must be “flat” (without subdirectories) for each recording.

Create a folder for each recording and label it by the Object Identifier number (i.e. CAVPP2015/marc organization code/object identifier/).

The following items should be within each folder per recording or media object:

preservation file(s)

preservation file .md5(s)

access file(s)

access file .md5(s)

PBCore xml record

picture file .jpg(s) of the original recording

Technical evaluation form(s) and notes about the transfer (if not already supplied in the PBCore)

## **Deliverables**

Please see attached vendor workflow/timeline. CAVPP’s files will be retained on the vendor’s storage system until they are checked and accepted by the CAVPP and the holding institution within a reasonable time span (up to six months). The vendor will communicate confirmation of the deletion of the files via email within six months or the CAVPP has given permission to delete the files.

Initially the vendor will batch deliver digital files to the CAVPP by shipment on borrowed exFAT-formatted hard disk drives (HDDs) preferably with Firewire ports. The vendor will produce an .md5 checksum per file state (preservation and access) at the time of ingest to verify that files were not modified in transit.

CAVPP will do quality control on the files and may ask the vendor to review the original recording to confirm artifacts are inherent to the source when they are not documented in the transfer notes. CAVPP will report quality control feedback by partner and will ask the vendor for replacement files for any deliverables that do not meet specifications. Replacements should be received within 30 days.

After [quality control](#) and upon approval of the files by the CAVPP and the partner institution, the vendor will deliver all files (including preservation files, access files, checksums, photos, xml metadata, and tech sheets if included) on a mirror set of two LTFS-formatted LTO6 tapes. Include only the final approved files for each object. Please ensure that all the associated files that represent a media object are on the same LTO tape. The vendor will check the checksums on the LTO after writing the tapes to confirm that files did not change during transfer. The CAVPP will return the borrowed HDDs upon receipt of the final LTO deliverable.

The vendor will create a manifest of the LTO tapes in Excel form, including the following information in this order:

- LTO\_MediaLabel (including unique identifier i.e. CA0010L6 and/or barcode)
- Object Identifier (ie cusb\_00001)
- FolderType (i.e. cusb\_00001)
- GeneralFileName (i.e. cusb\_00001\_prsv.mov)
- PathandFilename (i.e. CAVPP2014\cusb\cusb\_00001\cusb\_00001\_prsv.mov)

Holding institutions will contact the vendor directly for copies of their approved files and associated metadata - usually on a

mirror HDD borrowed or bought from the vendor, or they will supply their own – within 60 days upon the vendor's file delivery to the CAVPP. The holding institution is expected to pay only for storage media and shipping for copies of their files. The CAVPP will inform the vendor which institutions expect copies at the start of digitization work. When confirming shipment of the backup copies to the partner, the vendor will cc: [cavpp@calpreservation.org](mailto:cavpp@calpreservation.org).

## Shipping

All originals will be shipped from the CAVPP via FedEx on the vendor's account (please invoice CAVPP for shipping).

Please send deliverables to: Kristin Lipska  
California Audiovisual Preservation Project  
20 Doe Library, Berkeley, CA 94720  
510.642.3885  
[klipska@berkeley.edu](mailto:klipska@berkeley.edu)

After final approval of the files and metadata by the CAVPP and the holding institution, the vendor will return original materials directly to the holding institution via the CAVPP's FedEx account (please email [klipska@berkeley.edu](mailto:klipska@berkeley.edu) for prepaid shipping labels). A list of shipping addresses and contact information for all participating partner institutions will be provided by the CAVPP so that the vendor can send shipping information to both the institution and CAVPP upon return.

Please send all shipping notices to: [klipska@berkeley.edu](mailto:klipska@berkeley.edu) and cc: [cavpp@calpreservation.org](mailto:cavpp@calpreservation.org)

## Billing

The Peninsula Library Systems (PLS), the CAVPP's fiscal agent, handles all payments for the CAVPP. Mail or email the invoice(s) to Pamela Jean Vadakan; approved invoices will be forwarded to PLS for payment.

Ensure invoices are labeled with the following Bill to/Send to information: Bill to:  
Donna Truong  
Peninsula Library Systems  
2471 Flores Street  
San Mateo, CA 94403  
650.349.5538  
[truong@plsinfo.org](mailto:truong@plsinfo.org)

Send to:  
Pamela Jean Vadakan  
California Audiovisual Preservation Project  
20 Doe Library, Berkeley, CA 94720  
510.642.4665  
[pamelaje@berkeley.edu](mailto:pamelaje@berkeley.edu)

The California Audiovisual Preservation Project looks forward to working with you!

Pamela Jean Vadakan  
[California Light and Sound](#) | **California Audiovisual Preservation Project**  
510.642.4665, [pamelaje@berkeley.edu](mailto:pamelaje@berkeley.edu)

### California Audiovisual Preservation Project – Vendor Workflow/Timeline

<b>Process</b>	<b>Time Frame</b>
CAVPP call for nominations	30 days
CAVPP compiles nominations for California Preservation Program Steering Committee	1-2 weeks
CPPSC reviews nominations	1-2 weeks
CAVPP sends award letters to partner institutions	1 week
Partner ships originals to CAVPP	30 days
CAVPP checks inventory against award letter	Upon receipt of originals
CAVPP processes and ships batches of originals (minimum 3 partners per batch) to vendor in the order in which they were received	30-60 days
<b>Vendor digitizes originals</b>	<b>6-8 weeks</b>
CAVPP QC's new files and metadata and sends feedback to vendor per batch/institution	30 days upon receipt of files (first round)
CAVPP uploads files and metadata to IA per institution and sends email notification to partner to check files and order backup from vendor	
<b>Vendor responds and provides redos as needed</b>	<b>30 days upon CAVPP feedback</b>
CAVPP QC's redos	15-30 days upon receipt of redos (second round)
<b>Vendor sends CAVPP invoice for digitization</b>	<b>30 days upon receipt of first round</b>
CAVPP pays invoice	
Partner QC's, updates descriptive metadata, checks image and sound quality of access files, and sends feedback to CAVPP* *not a project requirement	30 days upon delivery of partner email (30-60 days upon receipt of first round of files)
CAVPP responds and relays technical questions, if any, to vendor	
CAVPP signs off on files and metadata – final approval for LTO creation	
<b>Vendor returns originals directly back to partner and provides file backups</b>	<b>1-2 weeks</b>
<b>Vendor provides final LTO deliverable to CAVPP</b>	<b>30 days upon final file approval</b>
CAVPP QC's LTO	1-2 weeks
<b>Vendor sends CAVPP invoice for LTO</b>	<b>30 days</b>
CAVPP pays invoice	
CAVPP publishes CONTENTdm records and syncs records in WorldCat [and Calisphere and DPLA]	2-4 weeks



## Metadata Fields For the California Audiovisual Preservation Project (CAVPP)

**Red = Required** | **Green = Preferred** | **Blue = Ideal** | supplied by Partner Archive

Gray = supplied by CAVPP | **Purple = supplied by Digitization Vendor**

Field	PBCore element	Dublin Core element	Notes	
[Descriptive Metadata]	Institution Name	collectionSource; Identifier source	provenance	
	Title	Title [titleType=Main/Supplied]	title	
	Creator (repeatable)	creator [creatorRole=Writer/Producer/Director/ Interviewer/Performer]	creator	source="Library of Congress Name Authority File"
	Date (repeatable)	AssetDate [dateType=Created/Published]	date-created; date-issued	YYYY-MM-DD
	Significance to California history			
	Contributor (repeatable)	contributor [creatorRole=Camera/ Editor/Sound/Interviewee/Music/ Cast/Other]	contributor	source="Library of Congress Name Authority File"
	Publisher	Publisher [publisherRole=Publisher/Distributor]	publisher	source="Library of Congress Name Authority File"
	Language of Material (repeatable)	instantiationLanguage	language	source="ISO 639.2"
	Description (repeatable)	description [descriptionType=Content Summary/Abstract/Transcript/Shotlist]	description	
	Subject [subjectType=Topic/Entity] (repeatable)	subject		source="Library of Congress Subject Headings"
Genre	Genre		source="The Moving Image Genre-form Guide"	

**Metadata Fields  
For the California Audiovisual Preservation Project (CAVPP)**

Coverage (repeatable)	Coverage [coverageType=Spatial/Temporal]	coverage	source="Library of Congress Subject Headings"; source="Library of Congress Extended Date/Time Format"
Collection Guide Title and URL	collectionTitle	relation-ispartof	collectionSource=Institution Name
Relationship (repeatable)	[relationType=Has Part/Is Part Of/Has Version/Is Version Of/Other]	relation	
Additional Title (repeatable)	[titleType=Alternative/Reel/Tape/Series]	title-alternative	
Call Number (repeatable)	Identifier [identifierType=Call Number/Other]	identifier	source=Institution Name
Additional Descriptive Notes for Overall Work (repeatable)	description [descriptionType=Additional description]		
<b>[Rights Metadata]</b>			
Copyright Statement	rightsSummary	rights	rights Summary annotation=Copyright Statement
Country of Creation	[Extension]		annotation=countryofcreation source="ISO 3166.1"
Copyright Holder	rightsSummary		rightsSummary annotation=Copyright Holder
Copyright Holder Info	rightsSummary		rightsSummary annotation=Copyright Holder Info
Copyright Date	rightsSummary		rightsSummary annotation=Copyright Date
Copyright Notice	rightsSummary		rightsSummary annotation=Copyright Notice
Institutional Rights Statement (URL)	rightsSummary		rightsLink annotation=Institutional Rights Statement
<b>[Technical Metadata about the original]</b>			
Total Number of Reels or Tapes Generation	Extent instantiationGenerations	format-extent format	
Media Type	[instantiationMediaType=Moving Image/Sound]	type	

**Metadata Fields  
For the California Audiovisual Preservation Project (CAVPP)**

Gauge and Format	instantiationPhysical	format-medium
Duration	instantiationDuration	format-extent
Silent or Sound	instantiationTracks	format
Color or Black & White	instantiationColors	format
Aspect Ratio	instantiationEssenceTrack	annotation=AspectRatio
Running Speed	instantiationEssenceTrack	
Track Standard	instantiationEssenceTrack	annotation=TrackStandard
Channel Configuration	instantiationChannelConfiguration	format
Subtitles or Intertitles or Closed Captions	instantiationAlternativeModes	
Stock Manufacturer	instantiationAnnotation	annotation=StockManufacturer
Base Type	instantiationAnnotation	annotation=BaseType
Additional Technical Notes for Overall Work (repeatable)	instantiationAnnotation	annotation=[Additional Technical Notes for Overall
<b>[Administrative Metadata]</b>		
Internet Archive URL	Identifier	
Asset Type	AssetType	Media Object
Object Identifier	Identifier [identifierType=Object Identifier]	source=CAVPP
Project Identifier	Identifier [identifierType=Project Identifier]	source=CAVPP
Object ARK	Identifier [identifierType=Object ARK]	source=CDL
Institution ARK	Identifier [identifierType=InstitutionARK]	source=CDL

## Metadata Fields For the California Audiovisual Preservation Project (CAVPP)

InstitutionURL	collectionSource		
Project Note	Extension	description	California Audiovisual Preservation Project (CAVPP)
CAVPP Quality Control Notes	instantiationAnnotation annotationType=CAVPP Quality Control/Partner Quality Control		
Cataloger Notes			

**[Technical  
Metadata about  
the digital  
file(s)]**

Digital File Identifier	instantiationIdentifier		source=CAVPP annotation=File Name
Creation Date	instantiationDate		
Frame Size	instantiationDimensions		unitsOfMeasure="pixels"
File Extension	instantiationDigital		source="IANA MIME Media Types" or source="PRONOM Technical Registry"
Standard and File Wrapper	instantiationStandard		
File Location	instantiationLocation		annotation=LTO Tape Number and Barcode Number
Media Type	instantiationMediaType=Moving Image/Sound	type	
Generation	instantiationGenerations		
Size	instantiaionFileSize		unitsOfMeasure="GB" or "MB"
Duration	instantiationDuration		
Colors	instantiationColors		
Tracks	instantiationTracks		
Channel Configuration	instantiationChannelConfiguration		
Language	instantiationLanguage		source="ISO 639.2"

**Metadata Fields  
For the California Audiovisual Preservation Project (CAVPP)**

	essenceTrack	
Track Type	[essenceTrackType=Video/Audio]	
Encoder	essenceTrackEncoding	
Sampling Rate	essenceTrackDataRate	unitsOfMeasure=Mbps/kHz
Frame Rate	essenceTrackFrameRate	unitsOfMeasure=fps
Playback Speed	essenceTrackPlaybackSpeed	unitsOfMeasure=fps
Bit Depth	essenceTrackBitDepth	
Aspect Ratio	essenceTrackAspectRatio	
Data Compression	essenceTrackAnnotation	
Relationship/Transfer Vendor/Creation Date	instantiationRelation [instantiationRelationType=Derived from] or [instantiationRelationType=Is part of]	source="CAVPP" or "Vendor Name YYYY-MM-DD" annotation="Source Item Number"
[PREMIS-like] MD5/MD5 Date	objectIdentifierValue [objectIdentifierType=filename]/messageDigest	source="Vendor Name YYYY-MM-DD" annotation="checksum"
Creating Application and Version	instantiationAnnotation annotationType=creatingApplicationName	
Source Deck Manufacturer/Model	instantiationAnnotation annotationType=Source Deck	
Digitizer Manufacturer/Model	instantiationAnnotation annotationType=Digitizer	
Technical Evaluation report	instantiationAnnotation annotationType=Vendor Technical Evaluation report	Transfer; Quality Control
Vendor Quality Control Notes	instantiationAnnotation annotationType=Vendor Quality control	