

**Target Audio and Video Specifications**  
**California Audiovisual Preservation Project (CAVPP)**  
**For Quality Assurance**

Based upon current practices in the media preservation field, and with input from participating partner archives, the California Audiovisual Preservation Project (CAVPP) creates the following digital files from the highest quality source available—ideally the original recording. The CAVPP recognizes that there is no one-size-fits-all archival standard in the digital preservation field, and standards change. The CAVPP will revisit and revise format specifications in response to improvements in capture technologies as well as the capabilities and needs of the partner archives and their users.

The CAVPP preserves motion picture recordings using digitization rather than traditional film-to-film preservation processes because the gains in access afforded by digitization justify the cost of preserving recordings that otherwise would be lost. Considering the millions of feet of film documenting California's audiovisual heritage, in newsfilm collections alone, there are simply not enough resources to create new film master negatives and prints for all.

**Audio – all sources:**

- Master: Broadcast WAV – 24bit, 96 kHz. 2,304 Kbps for mono, 4,608 Kbps for stereo. L and R channels interleaved. (Approximate size: 1.3 GB, stereo for 40 min recording)
- Access file: MP3, 160 Kbps for mono – 320 Kbps for stereo. L and R channels interleaved. (Approximate size: 47 MB mono and 94 MB, stereo for a 40 min. recording)
- For born digital sources, maintain original specifications and embedded metadata.

**Film and Video – all sources:**

- Preservation master: mov, 10 bit uncompressed (4:2:2), QuickTime wrapper
- Stream bitrate: 223 Mbps (silent) – 226 Mbps (sound)
- 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
- Scan type: interlaced
- Audio: PCM, 2,304 Kbps stream bitrate, 2 Channels, 48kHz sampling rate, 24-bit depth
- Approximate size: 102 GB for 60 min. recording

**Access copy:**

- .mp4, H.264 MPEG-4 Part 10
- Stream bitrate: 3.5 Mbps – 4 Mbps
- Codec: avc1
- Frame width: 720 pixels; Frame height: 540 pixels
- Frame rate: 29.97 fps
- Display aspect ratio: 4:3
- Standard: NTSC
- Color space: YUV
- Scan type: progressive
- Bit depth: 8 bits
- Audio: AAC, 157 Kbps – 160 Kbps stream bitrate, 2 Channels, 48 kHz sampling rate
- Approximate size: 715 MB for 60 min. recording
  
- For born digital sources, maintain original specifications and embedded metadata.

## File Naming and Directory Conventions California Audiovisual Preservation Project (CAVPP)

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 access files ObjectIdentifier\_access.HD plus extension (i.e. cusb\_00001\_access.HD.mov).

If an audio or video object consists of multiple tapes, add “\_t#” to the file name (i.e. cusb\_00001\_t1\_prsv.mov; cusb\_00001\_t2\_prsv.mov, etc.)

If a film object consists of multiple reels, add “\_r#” to the file name (i.e. cusb\_00001\_r1\_prsv.mov; cusb\_00001\_r2\_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\_t1\_a\_prsv.mov; cusb\_00001\_t1\_b\_prsv.mov, cusb\_00001\_t2\_a\_prsv.mov; cusb\_00001\_t2\_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\_p1\_prsv.wav, cusb\_00002\_p2\_prsv.wav, etc.)

Label .md5 checksums in the following manner:

File name: cusb\_00001\_prsv.mov  
Checksum: cusb\_00001\_prsv.mov.md5

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. CAVPP2014/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 files of the original recording
- Technical evaluation form(s) and notes about the transfer