Avid Metadata Logging and Tracking

Avid

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Introduction

The most common definition of metadata is that it is data about data. Or, information used to describe another piece of data. In content creation, every project has at least one piece of metadata attached to it – the project name. As a project increases in complexity, the corresponding amount of metadata increases rapidly. Even a simple process will involve a large amount of metadata; for example, a film to HD transfer with SD offline will define at a minimum:

- Frame Rate
- Shoot Date
- Camera Roll
- Scene
- Take
- Sound Roll
- Production Timecode
- HD Tape Name and Timecode
- SD Tape Name and Timecode
- Pulldown (for NTSC)
- KeyKode
- User-defined metadata (comments, descriptions, etc.)

Keeping track of all this metadata and providing it when editing, repurposing, archiving and retrieving media creates the most efficient workflows possible. Extensive metadata management and availability provides such benefits as: speeding up searches, guaranteeing accuracy of conform, and enabling versioning and rollback.

Avid's Robust Metadata Management

For any type of production - any frame rate or format, any acquisition or deliverable needs – Avid metadata management is the broadest and most flexible available. Avid's industry-leading metadata tracking is a standard feature in Avid Xpress® Pro, Media Composer®, and Symphony™ editing products, from Meridien™-based systems to Adrenaline™- and Nitris®-based systems.

In addition to tracking more than 80 standard metadata fields, Avid metadata management extends to the use of custom fields. You can create as many user-defined entries as desired – it's all tracked and made available for downstream use.

Logging and Tracking Metadata

The table below describes standard metadata columns within the Avid bins and their purpose. Depending on column type, each column will have one of the following attributes:

- T = Text. Alphanumeric (string can be edited)
- D = Display-only (text string which can cannot be edited)
- C = Count. The field will count as frames, timecode or feet + frames. Columns that count can be edited or are calculated for display. Calculated and display-only columns are indicated in the table.
- M = Menu. CTRL-click in field allows user to select preset value from a pop-up menu

For Avid Standard columns, upper case/lower case and spaces are observed.

Timecodes in the Start column are based on the project type.

PROJECT TYPES

Project Type	Timecode	Comments
23.976p NTSC	30fps	Drop and Non Drop. Every fifth frame is accounted for based on the value found in the Pullin column
24p NTSC	30fps	Drop and Non Drop. Every fifth frame is accounted for based on the value found in the Pullin column
30i NTSC	30fps	Drop and Non Drop. Rolls over at :29 or ;29
24p PAL	25fps	25fps timecode, rolls over at :24
25p PAL	25fps	25fps timecode, rolls over at :24
25i PAL	25fps	25fps timecode, rolls over at :24
720p/23.976	30fps	Drop and Non Drop. Every fifth frame is accounted for based on the value found in the Pullin column. Rolls over at :29 or ;29
720p/29.97 (HDV)	30fps	Drop and Non Drop. Rolls over at :29 or ;29
720p/50	25fps	25fps timecode, rolls over at :24
720p/59.94	30fps	Drop and Non Drop. Rolls over at :29 or ;29
1080p/23.976	24fps	24fps timecode, rolls over at :23
1080p/24	24fps	24fps timecode, rolls over at :23
1080p/25	25fps	25fps timecode, rolls over at :24

Project Type	Timecode	Comments
1080i/50	25fps	25fps timecode, rolls over at :24
1080i/59.94	30fps	Drop and Non Drop. Rolls over at :29 or ;29

SOURCES

Column Header	Type	Description
Name	T	Alphanumeric as well as special characters (*/# etc.). This is a user-definable field to name the clip, subclip, sequence, etc. If Name is not defined during an ALE file import, Name will be created by combining values found in scene/take.
Shoot Date	T	Date that the content was created (not developed or transferred). When combined with any timecode field, it becomes unique frame identifier (as in iDataLink).
Tape	D	ID of source. When entered, it triggers the creation of TAPE MOB ID within Avid editing system. Alphanumeric characters supported but no special characters. Length is user defined but may be limited by EDL needed.
Start	C,T	Timecode of the first frame of a clip, based on frame rate of project type (NTSC 30fps DF/NDF, PAL 25, etc.).
Duration	D	Duration of clip calculated from Start and End values.
End	C,T	Timecode of last frame in clip +1 (EDL Style). Is used to calculate Duration column.
Soundroll	T	ID of sound roll. A Clip must contain an Audio track in order for Soundroll to have a value.
Sound TC	C,T	Timecode of audio associate with master clip. User can only enter values if SoundRoll is defined and the clip has audio. When switching from NTSC or PAL 24 frame based project to 1080, the Sound TC will retain the SD timecode based counts.
Labroll	T	ID of multiple camera rolls when combined into one roll for transfer
Camroll	T	ID of individual camera roll
Scene	T	ID of Scene
Take	T	ID of Take

Column Header	Type	Description
KN Start	T	Original Camera Negative identification of the first frame of the clip. The format of this field is determined by the KN Edge and KN Film fields.
KN End	D	Original Camera Negative identification of the last frame of the clip. The format of this field is determined by the KN Edge and KN Film fields.
KN Edge	D,M	Displays Gauge of KN Start count. Selections: • 35.3 (35mm/3 perf) • 35.4 (35mm/4 perf) • 16.20 (16mm 20 frame count)
KN Dur	D	Duration in Feet and Frames based on format of KN. Start defined by KN Edge.
Cadence	D	Defines cadence type: • NORM – Normal 2:3:2:3 • ADVA – Advanced 2:3:3:2 • NONE = None – 2:2:2:2
TC 24	C,T	24 frame timecode 00:00:00:00 (rolls over at :23) • In a 30fps project, the 24 frame timecode is compensated for by repeating every fifth frame based on the pulldown value found in the Pullin column • TC 24 column has a conversion process applied when Start column is "duplicated" (cmd-D or ctrl-D) and TC 24 is chosen as the target column: o NTSC: 2:3 conversion from 30 to 24 based on pulldown value found in Pullin Column o PAL: Convert from 00:00:00:00 (4.1% conversion) or a straight copy
TC 60	C,T	60 frame timecode 00:00:00:00 (rolls over at :59)
TC 30NP	C,T	30 frame (No Pulldown). Used for 24fps film material transferred to NTSC with no pulldown (2:2:2:2)
Aux TC 24	C,T	24 frame timecode 00:00:00:00 (rolls over at :23)
Pullin	T	Cadence Setting for first frame of clip. Values are A, B, C, and D in 23.976 and 24 frame projects and A, B, X, C, and D in 30 frame projects.

Column Header	Type	Description
Pullout	D	Cadence of last frame of clip (calculated)
Film TC	C,T	24 frame timecode 00:00:00:00 (rolls over at :23). Timecode values in this column are for picture only lists. There must be a value defined in "KN Start" in order to have a value in the Film TC field.
Auxiliary TC1	C,T	Timecode 00:00:00:00 – will always count in the frame rate of the project type. Caution must be taken for values in this field – switching from NTSC/24 to 1080p/24 will change the value from 30fps to 24fps.
Auxiliary TC2	C,T	Timecode 00:00:00:00 – will always count in the frame rate of the project type. Caution must be taken for values in this field – switching from NTSC/24 to 1080p/24 will change the value from 30fps to 24fps.
Auxiliary TC3	C,T	Timecode 00:00:00:00 – will always count in the frame rate of the project type. Caution must be taken for values in this field – switching from NTSC/24 to 1080p/24 will change the value from 30fps to 24fps.
Auxiliary TC4	C,T	Timecode 00:00:00:00 – will always count in the frame rate of the project type. Caution must be taken for values in this field – switching from NTSC/24 to 1080p/24 will change the value from 30fps to 24fps.
Auxiliary TC5	C,T	Timecode 00:00:00:00 – will always count in the frame rate of the project type. Caution must be taken for values in this field – switching from NTSC/24 to 1080p/24 will change the value from 30fps to 24fps.
Camera	T	Used to identify camera that was used to create source (e.g., A Camera, B, Camera, etc.)
TC 25PD	C,T	Timecode 00:00:00:00 (rolls over at :24). Timecode counts for PAL Pulldown where an extra field is inserted every 12th frame.
TC 25	C,T	Timecode 00:00:00:00 (rolls over at :24)
TC 30	C,T	Timecode 00:00:00:00 (rolls over at :29)
Ink Number	C,T	Ink Number of the first frame of a clip. It is used to track alternate gauges or Acmade code on workprint. The format is defined by the values of Ink Edge and Ink Film.

Column Header	Type	Description
Ink End	D	Ink Number value for last frame of clip, displayed in the format defined by Ink Edge and Ink Film.
Ink Dur	T,D	Duration, displayed according to the settings of Ink Edge and Ink Film.
Ink Edge	D,M	Defines prefix and footage/frame count of Ink Number. Prefix can be up to 32 alphanumeric characters. Values: • KeyKode: (XX XX XXXX-XXXX+XX) • Edgecode (4 count): (-XXXX+XX) • Edgecode (5 count): (-XXXXX+XX) • Frames: (XXXXXX)
Ink Film	D,M	Defines the method of counting of the Ink Number: • 35.2 (35mm, 2 perf) • 35.3 (35mm, 3 perf) • 35.4 (35mm, 4 perf) • 35.8 (35mm, 8 perf) • 16.40 (16mm, 40 frame count) • 16.20 (16mm, 20 frame count) • 65.15 (65mm, 15 perf – IMAX) • 65.10 (65mm, 10 perf) • 65.8 (65mm, 8 perf) • VISTAVISION (35mm, 8 perf @ and skips every other frame to account for the doubling of the frame rate of 24fps playback
Auxiliary Ink	C,T	Feet and frame or frame counter with prefix for first frame of clip. Used to track alternate gauges or Acmade code on workprint.
AuxInk End	D	Out point for clip
AuxInk Edge	D,M	Defines how the Aux Ink Number is displayed. Prefix can be up to 32 alphanumeric characters. Values: • KeyKode: (XX XX XXXX-XXXX+XX) • Edgecode (4 count): (-XXXX+XX) • Edgecode (5 count): (-XXXXX+XX) • Frames: (XXXXXX)

Column Header	Type	Description
AuxInk Film	D,M	Defines the counting format of Aux Ink Number: • 35.2 (35mm, 2 perf) • 35.3 (35mm, 3 perf) • 35.4 (35mm, 4 perf) • 35.8 (35mm, 8 perf) • 16.40 (16mm, 40 frame count) • 16.20 (16mm, 20 frame count) • 65.15 (65mm, 15 perf – IMAX) • 65.10 (65mm, 10 perf) • 65.8 (65mm, 8 perf) • VISTAVISION (35mm, 8 perf @ and skips every other frame to account for the doubling of the frame rate of 24fps playback
Transfer	C,T	Allows for total frame counts for LAB or CAMERA roll frame counts from a punch frame – up to 32 alphanumeric for prefix – 6 characters for frame count. (e.g., camroll_21-000001)
DPX	C,T	Frame based counter with 32 alphanumeric prefix and 6 frame counter. (32-6)
VFX	C,T	Frame based counter with 32 alphanumeric prefix and 6 frame counter. (32-6)
VFX Reel	T	Alphanumeric field to track reel ID if needed for VFX
UNC Path	T	Server or network path used to indicate the location of DPX (or other files). This field becomes a hyperlink inside the editor via a control key modifier
LUT	T	ID of a LUT file is used, is field becomes a hyperlink inside the editor via a control key modifier
ASC_SOP	T	American Society of Cinematographers Slope, Offset and Power values (R, G, B) as defined by the ASC: (1.123 2.123 3.123)(-1.123 -2.123 -3.123)(1.456 2.456 3.456)
ASC_SAT	T	Parameters for saturation as defined by the ASC – no parens (e.g., 1.0)
Disk Label	D	Disk Label is the ID given to the disk when using XDCAM or XDCAM-HD formats. It is created at time of import and cannot be set ahead of time.

Column Header	Type	Description
VITC	D	A timecode field that is no longer used or supported. In older versions, VITC was populated automatically when an Avid MediaReader™ was attached to the system.
iDataLink	T	Combination "Shoot Date_production" timecode to support data packet of lens metadata as defined by the Cooke Lens specification. (e.g., 070528_12101000)
CUSTOM	T	User-definable fields added directly in bin or via ALE import. All custom fields are text fields that fully editable within the system

RECORD SIDE/SEQUENCES

Column Header	Type	Description
Master (feet + frames)	D,M	Allows for count of record side or sequence to be set for feet and frames or frames: • 35.2 (35mm, 2 perf) • 35.3 (35mm, 3 perf) • 35.4 (35mm, 4 perf) • 35.8 (35mm, 8 perf) • 16.40 (16mm, 40 frame count) • 16.20 (16mm, 20 frame count) • 65.15 (65mm, 15 perf – IMAX) • 65.10 (65mm, 10 perf) • 65.8 (65mm, 8 perf)
Master (timecode)	D,M	Allows for count of record side or sequence to be set for timecode: • 30fps Drop frame • 30fps non drop frame • 24fps • 25fps • 25PD (12:1 pulldown) • 30NP (30fps no pulldown) • 60fps
Pulldown	D,T	Displays 2:3 NORMAL pulldown cadence for the record side sequence when inserted into a 59.94 field format.

ALE Header Information per Project type

Many workflows involve the logging of metadata before importing into an Avid editing system. In order to do so, all of the metadata described above needs to be represented in the Avid Log Exchange format known as ALE. The ALE format contains a global header section where information for all events in the log is described for each project type. Only changes in the header are the VIDEO_FORMAT and FPS fields:

Standard Definition

NTSC

Heading<RETURN>

FIELD_DELIM<TAB>TABS<RETURN>

VIDEO_FORMAT<TAB>NTSC<RETURN>

FILM_FORMAT<TAB>35mm, 4 perf<RETURN>

AUDIO_FORMAT<TAB>48khz<RETURN>

FPS<TAB>24<RETURN>

Where 23.976, 23.98, 24, 29.97 and 30 are valid entries for the FPS value. Note that any of these files can be imported into a 23.976p, 24p and 30i project type.

PAL

Heading<RETURN>

FIELD_DELIM<TAB>TABS<RETURN>

VIDEO_FORMAT<TAB>PAL<RETURN>

FILM_FORMAT<TAB>35mm, 4 perf<RETURN>

AUDIO_FORMAT<TAB>48khz<RETURN>

FPS<TAB>24<RETURN>

Where 24 and 25 are valid entries for the FPS value. Depending on PAL 24p project, events in file can or cannot have VA clips.

- PAL Method 1: Only clips logged as Video only (V) in the Tracks column will import. PAL Method 1 projects assume a double system workflow where audio is captured or imported as a separate pass and synced in the system
- PAL Method 2: Clips can be logged as video and audio (VA1A2).

High Definition

720

Heading<RETURN>

FIELD_DELIM<TAB>TABS<RETURN>

VIDEO_FORMAT<TAB>720<RETURN>

FILM_FORMAT<TAB>35mm, 4 perf<RETURN>

AUDIO_FORMAT<TAB>48khz<RETURN>

FPS<TAB>24<RETURN>

23.976, 23.98, 29.97 and 30 are all valid entries for the FPS value. Unlike NTSC and similar to 1080, the FPS value must match that of the project type

1080

Heading<RETURN>

FIELD_DELIM<TAB>TABS<RETURN>

VIDEO_FORMAT<TAB>1080<RETURN>

FILM_FORMAT<TAB>35mm, 4 perf<RETURN>

AUDIO_FORMAT<TAB>48khz<RETURN>

FPS<TAB>24<RETURN>

Where 23.976, 23.98, 24, 25 and 30 are valid entries for the FPS value. Unlike NTSC, the FPS value must match that of the project type.

The minimum set of columns in an ALE file for import is:

1. Tape
2. Start
3. End

If a Film Project:

1. Pullin (of value other than "A" is desired)

"Name" is an option – as stated above. If Scene and Take have values, it will combine the two with a "/" separator as Scene/Take. If there are no Scene and Take columns in the file, then the clip name inherits the Bin name with a .001, .002 numbering attached to every clip.

Avid Metadata Management and Future Potential

As formats and acquisition methods grow over time, metadata management will remain crucial to efficient project workflows whether it is a downstream process from editorial, or tracking elements as they come in for archive and management purposes. The flexible and extensive metadata management foundation Avid provides today will be the basis for robust Avid solutions in the future.

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