



Woody in2it

Technical specifications v 2.8

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1. File analysis and smart processing

Woody ingest engine decides automatically which processing to apply, depending of

- . target format
- . source essence format (codec), regardless of its container

- ▶ **Transcode.** If the 2 formats are different, an audio and/or video transcode is performed before the wrapping.
- ▶ **Rewrap.** If the 2 formats are identical, Woody is only rewrapping from the source container to the target container. Rewrap is made if the target format is defined as "same as source" or if **Woody in2it** detects that the source format is the same than the target format configured.

Audio tracks are transcoded, if necessary.

The rewrap saves the source quality as it is completely non-destructive, and is also much faster than a transcode : the processing time will be similar to a simple file copy.

- ▶ **Audio.** When a source clip contains only audio tracks or when the target is defined as « Audio only », the clip is processed transcoding only the audio tracks. In Avid Interplay or Avid MediaFile mode, the target clip is an audio only masterclip.
- ▶ **Photo.** Picture files are processed as a video target file. The duration of the generated clip can be defined in the configuration of **Woody in2it**.

Edit While Ingest – Avid Interplay mode

Woody in2it handles *Edit While Ingest* feature of Avid Interplay. If the *Edit While Ingest* is enabled in the profile configuration, the generated masterclip is regularly updated in Avid Interplay. This makes possible editing or viewing while ingest. The check-in frequency can be configured in number of frames (please not that a high refreshing frequency can affect ingest performances).

2. Cards structures detected and analyzed automatically

- Sony XDCam, XDCam HD, XDCam EX and XDCam Pro
- Panasonic P2, Panasonic P2 LongG
- Canon XF
- AVCHD
- DCIM (including GoPro cameras) and MPROOT
- M4ROOT (XAVC)

3. Recognized source formats

Audio-video containers

4X, ASF, AVI, AVS, Bink, CDXL, DV, FLV, GXF, Matroska, Microsoft XMV, MLV, MP4, MPEG Systems, MPEG-TS, MTV, MXF Op1a, MXF Op1b*, MXF OpAtom, MxPEG, NUT, Ogg, QuickTime / MOV, RealMedia, RedCode R3D, RL2, WebM.

Audio containers

3GPP, ACT, AFC, AIFF/AST, Apple CAF, Audio IFF, AVR, BRSTM, Creative, CRI ADX, CRYO APC, D-Cinema, IRCAM, LOAS, MD STUDIO, Microsoft xWMA, Monkey's Audio, MP3, Musepack, NIST, NTT TwinVQ, PVF, QCP, Sony OpenMG, Sony Wave64, Sun AU, True Audio, WAV / WAVE, Westwood, Yamaha SMAF.

Video codecs

4X Movie, AJA Kona, AMV Video, Apple MJPEG-B, Apple ProRes , Auravision, AVC-Intra, AVC-Intra LongG*, AVS, BBC Dirac, Beam Software, Bethesda, Bink, CamStudio, Canopus Lossless Codec, Chinese AVS, Chronomaster, Cinepak, Cirrus Logic AccuPak, Commodore CDXL, CPiA, Dirac, DNxHD, Duck TrueMotion, DV, DVCPro, DVCProHD, Electronic Arts, Feeble Files, FFmpeg video codec, FLV / Sorenson Spark, Google VP9, H.261, H.263, H.264, HEVC, IBM UltiMotion, IFF, Intel Indeo, Lagarith, Microsoft RLE, Video 1, MJPEG, MPEG-1, MPEG-2, MPEG-4, NuppelVideo, On2 VP3 - VP5 - VP6 - VP7 - VP8, RealVideo 1.0 - 2.0 - 3.0 - 4.0 - RL2, Sierra VMD, Silicon Graphics Motion Video, Silicon Graphics RLE, Smackvideo, VC-1, Sony MDEC, Theora, Ut Video, VC3/DNxHD, VP8, VP9, Windows Media Video 7 - 8 - 9, XAVC-Intra.

Audio codecs

8SVX, AAC, ADPCM, ADU, ALAC, ALS, AMR-NB, ATRAC1 - 3, ATSC, Bink, DCA, DPCM, DSD, FLAC, G.722, G.723, G.726, G.729, Gecko, GSM, IAC, IMC, LucasArts VIMA, MACE, MLP, Monkey's Audio, MP1, MP2, MP3, Musepack, On2 Audio, Opus, PCM, QCELP, RealAudio 1.0 - 2.0 - Lossless - SIPR, Sierra VMD audio, Smack, SMPTE 302M, Sonic, True Audio, TrueHD, Vorbis, Voxware MetaSound, VQF TwinVQ, Westwood Audio, Windows Media Audio 1 - 2 - 9 - Lossless – Voice.

Animations and still images

Apple QuickDraw, Autodesk Animator, Deluxe Paint Animation, QuickTime Animation, QuickTime Graphics, Westwood Studios VQA, Alias/Wavefront PIX image, BMP, BRender PIX image, DPX, GIF, JPEG 2000, JPEG, OpenEXR, PAM, PBM, PCX, PGM, Pictor/PC Paint, Pinnacle Targa, PNG, PPM, SGI, SMV, TIFF, Truevision Targa, WebP, XBM.

① Notes

- All containers do not support all codecs.
- Some containers and unusual codecs not listed here may be supported.
- Some unusual containers and/or codecs are not - or not correctly - read by the player [Woody in2it](#) but are nevertheless accepted by the ingest engine.
- *copy only

4. Supported PAL target formats

A. SD PAL and HD 25/50 fps

Depending on the workflow	Modes Avid Interplay Avid Mediafiles		Mode A/V File + Metadata	
	Same as source Rewrap	Transcode	Same as source Copy / Rewrap	Transcode
Depending on the source format				
AVC-Intra 100 (HD1080i) 50	✓	✓	✓	✓
AVC-Intra 100 (HD1080p) 25	✓	✓	✓	✓
AVC-Intra 100 (HD720p) 25	✓	✓	✓	✓
AVC-Intra 100 (HD720p) 50	✓	✓	✓	✓
AVC-Intra 50 (HD1080i) 50	✓	✓	✓	✓
AVC-Intra 50 (HD1080p) 25	✓	✓	✓	✓
AVC-Intra 50 (HD720p) 25	✓	✓	✓	✓
AVC-Intra 50 (HD720p) 50	✓	✓	✓	✓
DNxHD 120 (1080i/50)	✓	✓	✓	✓
DNxHD 120 (1080p/25)	✓	✓	✓	✓
DNxHD 185 (1080i/50)	✓	✓	✓	✓
DNxHD 185 (1080p/25)	✓	✓	✓	✓
DNxHD 185 X (1080i/50)	✓	✓	✓	✓
DNxHD 185 X (1080p/25)	✓	✓	✓	✓
DNxHD 36 (1080p/25)	✓	✓	✓	✓
DV 25 411 i(PAL)	✓	✓	✓	✓
DV 25 411 p(PAL)	✓	✓	✓	✓
DV 25 420 i(PAL)	✓	✓	✓	✓
DV 25 420 p(PAL)	✓	✓	✓	✓
DV 50 i(PAL)	✓	✓	✓	✓
DV 50 p(PAL)	✓	✓	✓	✓
DVCPro HD (1080i/50) 50i	✓	✓	✓	
DVCPro HD (720p/50) 50p	Only for P2 source	✓	✓	
MPEG 30 i(PAL)	✓	✓	✓	✓
MPEG 40 i(PAL)	✓	✓	✓	✓
MPEG 50 i(PAL)	✓	✓	✓	✓
XDCAM EX 35Mbits (1080i/50)	✓	✓	✓	✓
XDCAM EX 35Mbits (1080p/25)	✓	✓	✓	✓
XDCAM EX 35Mbits (720p/50)	✓	✓	✓	✓
XDCAM EX 35Mbits (720p/25)	✓	✓	✓	✓
XDCAM HD 35Mbits (1080i/50)	✓	✓	✓	✓
XDCAM HD 35Mbits (1080p/25)	✓	✓	✓	✓
XDCAM HD 50Mbits (1080i/50)	✓	✓	✓	✓
XDCAM HD 50Mbits (1080p/25)	✓	✓	✓	✓
XDCAM HD 50Mbits (720p/25)			✓	
XDCAM HD 50Mbits (720p/50)	✓	✓	✓	✓
Others codecs / formats *			✓	
Custom presets **				✓

B. SD NTSC and HD 29.97/59.94 fps

Depending on the workflow	Modes Avid Interplay Avid Mediafiles		Mode A/V File + Metadata	
	Same as source Rewrap	Transcode	Same as source Copy / Rewrap	Transcode
AVC-Intra 100 (HD1080i) 59.94	✓	✓	✓	✓
AVC-Intra 100 (HD1080p) 29.97	✓	✓	✓	✓
AVC-Intra 100 (HD720p) 29.97	✓	✓	✓	✓
AVC-Intra 100 (HD720p) 59.94	✓	✓	✓	✓
AVC-Intra 50 (HD1080i) 59.94	✓	✓	✓	✓
AVC-Intra 50 (HD1080p) 29.97	✓	✓	✓	✓
AVC-Intra 50 (HD720p) 29.97	✓	✓	✓	✓
AVC-Intra 50 (HD720p) 59.94	✓	✓	✓	✓
DNxHD 110 (720p/29.97)	✓	✓	✓	✓
DNxHD 145 (1080i/59.94)	✓	✓	✓	✓
DNxHD 145 (1080p/29.97)	✓	✓	✓	✓
DNxHD 145 (720p/59.94)	✓	✓	✓	✓
DNxHD 220 (1080i/59.94)	✓	✓	✓	✓
DNxHD 220 (1080p/29.97)	✓	✓	✓	✓
DNxHD 220 (720p/59.94)	✓	✓	✓	✓
DNxHD 220x (1080i/59.94)	✓	✓	✓	✓
DNxHD 220x (1080p/29.97)	✓	✓	✓	✓
DNxHD 220x (720p/59.94)	✓	✓	✓	✓
DNxHD 290 (1080p/59.94)	✓	✓	✓	✓
DNxHD 440 (1080p/59.94)	✓	✓	✓	✓
DNxHD 440x (1080p/59.94)	✓	✓	✓	✓
DNxHD 75 (720p/29.97)	✓	✓	✓	✓
DNxHD 90 (1080p/59.94)	✓	✓	✓	✓
DV 25 411 i(NTSC) 29.97	✓	✓	✓	✓
DV 50 i(NTSC) 29.97	✓	✓	✓	✓
DVCPro HD (1080i/59.97)	✓	✓	✓	
DVCPro HD (720p/59.94)	✓	✓	✓	
XDCAM HD 50Mbps (1080i/59.94)	✓	✓	✓	✓
XDCAM HD 50Mbps (1080p/29.97)	✓	✓	✓	✓
XDCAM HD 50Mbps (720p/59.94)	✓	✓	✓	✓
Other codecs / formats *			✓	
Custom presets **				✓

* In [A/V File + Metadata](#) mode with a "same as source" target format defined in the profile, Woody in2it generates a copy of the source files (or a rewrap for subclips and spanned clips). In this configuration, P2 source files are rewrapped in MXF OP1a.

** In [A/V File + Metadata](#) mode, the administrator can creates its own presets based on MXF Op1a et MP4 containers.

Avid audio target formats

In Avid Interplay and Avid MXF+AAF modes, audio tracks can be transcoded to :

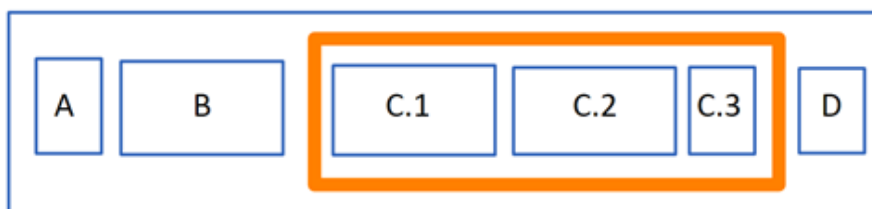
- Codec PCM 16 or 24 bits
- Frequency 44100 or 48000 Hz

5. Spanned clips

A clip is called spanned when it is saved into several files. Here are 2 cases:

- ▶ **Span intra-card**, it can occur when the files system (FAT16, FAT32) of the recording devices limits the files size while the camera manages the recording continuity. The files making part of the clip are on a same card.

Card



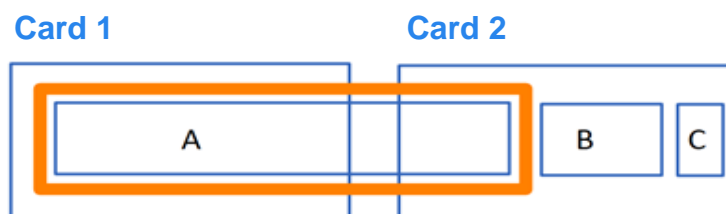
Woody in2it manages this kind of clips, performing a virtual concatenation of the files making part of the clip, processing it as a single clip in the user interface (player, metadata, sub-clips) and ingest process.

Woody in2it detects and creates the span intra-cards for structures:

- Panasonic P2
- Canon XF
- DCIM

ⓘ *This spanning case is not applicable to XDCam structures (UDF or exFAT file system).*

- ▶ **Span inter-cards**, it can occur when the camera has several card recorders and allows the continuous recording between them.



The presence of an inter-card *spanned* clip at the start or end of a card is indicated with a special icon, in the interface. However, the 2 parts of the clip are processed by Woody in2it as 2 separate clips.

Woody in2it detects the span inter-cards for structures:

- Sony XDCam et XDCam Pro
- Panasonic P2
- Canon XF

6. Metadata management

C. Metadata supported by Woody in2it

Audiovisual technical metadata

These data come from additional metadata files for Sony XDCam, Panasonic P2 or Canon XF structures or from the analysis of DCIM files structures and audiovisual files out of structure.

The analyzed data are described in the following fields:

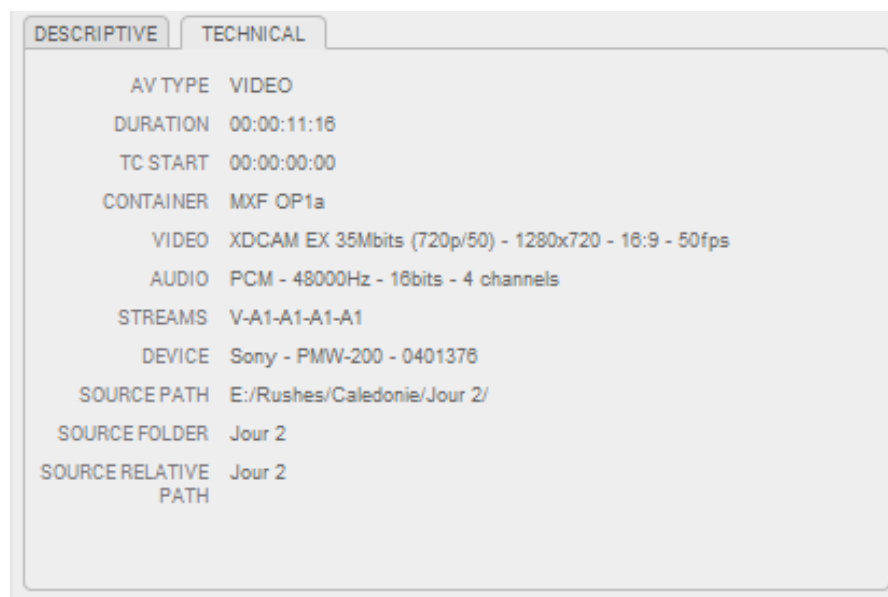
<i>Metadata</i>	<i>Details</i>
AV Type	Video, Audio, Photo
Date	Video creation time or File last modified date
Duration	Clip duration
TC Start	Start of the clip Timecode
Container	+ [Container settings] if available
Streams	Stream type [+ Channels number]. e.g V-A1-A1-A1-A1ou V1-A4-D
Video	
Codec	+ [profile@level] if available
+ Pixel format	4:2:0, 4:2:2, ...
+ Width x Height	Dimensions
+ DAR	Display Aspect Ratio
+ FPS	Frequency (images per seconde)
+ Bandwidth	If available
+ Interlace mode	Progressive, TFF, BFF
+ [Avid Codec]	If Avid Codec in the clip essence
Audio	
Codec	
+ Sampling frequency	If available
+ Sampling depth	If available
+ Channels number	
Device	Manufacturer – Model – Serial number – if available

Files metadata

These data correspond to the processed files or structures. They give the possibility to reuse the tree structure and the name of source files in the naming rules.

Metadata	Details
Clip name	For card structures
File Name	For files out of structure
Path	Of source clip. For card structures, it means the path until the parent folder of the structure (e.g. CONTENTS, XDRoots)
Folder	Of source clip. For card structures, it means the folder above the parent folder of the structure (e.g. CONTENTS, XDRoots)
Relative path	The path corresponding to the point from which an operation is performed, for example, in the case of the scan of the video files of a disk.
Disk letter	Of the disk where the source clip is located.

In the **Woody in2it** user interface, the details mentioned above are shown as follows:



Ingest metadata

These data correspond to the clip or group of clips after ingest.

Metadata	Details
First clip Date	Allows to organize the ingested clips, by date, even for a shooting lasting two days
Ingest Date	Date of ingest
Ingest Format	Target ingest format
Avid MobId / Avid URI	Clips created into Interplay
Target Name	As defined by the naming rule
Target Folder	As defined by the subfolder creation rule
Target Path	As defined by the subfolder creation rule

User metadata

These metadata are defined by the administrator, in the ingest profile. They are of several types:

Texte	Can be freely filled by the user
List	Choice by the user from a closed list
External list	Choice from a closed list populated by an external csv file
Static	Can not be changed by the user
Interplay selector	Allow Interplay browsing for target folder selection

For each user metadata, you can specify:

- If it is mandatory (the ingest will be blocked if it is not filled)
 - If it is displayed and/or editable
- ▶ For all selected clips
 - ▶ For each clip separately

D. Metadata uses

Metadata above can be used into [Woody in2it](#)

- ▶ Within the creation and naming rules of clips, folders (and shotlists in [Avid Interplay](#) mode).



- ▶ In [Avid Interplay](#) and [Avid MXF + AAF](#) modes, to fill Custom *Interplay Attributes* and *User Columns* in MediaComposer

Metadata		Interplay attribute
<i>New metadata</i>		
Ingest 1	static ▼	
Show	list ▼ ...	Programme
Topic	text ▼	
Journalist	list ▼ ...	Journalist

- ▶ In Cantemo Portal mode: to fill Cantemo metadata mode

Metadata		Export attribute
<input type="text" value="New metadata"/>		
<input type="text" value="Sujet"/>	text ▼	<input type="text" value="Topic"/>
<input type="text" value="Production"/>	list ▼ ...	<input type="text" value="Show"/>
<input type="text" value="Episode"/>	text ▼	<input type="text" value="Episode"/>
Name		<input type="text"/>
Source Name		<input type="text"/>
Source Date		<input type="text"/>

- ▶ In A/V File + Metadata mode, all metadatas are provided as a XML structure output.

This structure is available as a XML file (see exemple below) and usable in the post-processing notifications. Profiles configuration allows to apply a XSL transformation to metadata.

```
<?xml version="1.0" encoding="UTF-8" ?>
<WoodyAsset version="1.0">
  <Process>
    <Status>Success</Status>
    <Date>2017-02-09 17:25:21</Date>
    <Profile>Nearline</Profile>
    <IngestMode>File</IngestMode>
    <ProcessMode>Transcode</ProcessMode>
    <MetadataDeliveryMode>SMB</MetadataDeliveryMode>
    <MediaDeliveryMode>SMB</MediaDeliveryMode>
    <Station>DESKTOP-6JFB734</Station>
    <User>aurel</User>
    <Application>Woody in2it 2.7.002</Application>
  </Process>
  <Sources>
    <Source>
      <Name>0010YK</Name>
      <Path>E:/LB1</Path>
      <RelativePath>LB1</RelativePath>
      <VolumeName>Elements</VolumeName>
      <CreationDate>2000-05-06 10:32:43</CreationDate>
      <AVStructure>PANASONIC_P2</AVStructure>
      <AVType>VIDEO</AVType>
      <ClipId>1486656295241091</ClipId>
      <ClipUmid>060A2B340101010501010D4313000000C39E9D6C701605E7008045822D1A1627</ClipUmid>
      <CardId>F4ADE791-184C6986-1ACAD10C.PANASONIC_P2</CardId>
      <Container>MXF OP-Atom</Container>
      <Video>DVCPPro HD (1080i/50) 1440x1080 - 16:9 - 25fps</Video>
      <Audio>PCM - 48000Hz - 16bits - 4 channels</Audio>
      <fps>25</fps>
      <Spans>1</Spans>
      <Start_seconds>36340.4</Start_seconds>
      <Start_SMPTE>10:05:40:10</Start_SMPTE>
      <Duration_seconds>43.72</Duration_seconds>
      <Duration_SMPTE>00:00:43:18</Duration_SMPTE>
      <isSubclip>false</isSubclip>
      <SourceMetadata>
        <Metadata source="PanasonicP2" name="UserClipname">060A2B340101010501010D4313000000C39E9D6</Metadata>
        <Metadata source="PanasonicP2" name="DataSource">SHOOTING</Metadata>
        <Metadata source="PanasonicP2" name="CreationDate">2000-05-06T10:32:43+00:00</Metadata>
        <Metadata source="PanasonicP2" name="LastUpdateDate">2000-05-06T10:33:27+00:00</Metadata>
        <Metadata source="PanasonicP2" name="StartDate">2000-05-06T10:32:44+00:00</Metadata>
        <Metadata source="PanasonicP2" name="EndDate">2000-05-06T10:33:27+00:00</Metadata>
      </SourceMetadata>
    </Source>
  </Sources>
  <Target>
    <Name>Toyota Q4 results - 001</Name>
    <Start_seconds>36340.4</Start_seconds>
    <Start_SMPTE>10:05:40:10</Start_SMPTE>
    <Duration_seconds>43.72</Duration_seconds>
    <Duration_SMPTE>00:00:43:18</Duration_SMPTE>
    <MetadataFolder>C:\Woody Demo\Output\XML\2017-02-09\Toyota Q4 results</MetadataFolder>
    <MetadataFile>C:\Woody Demo\Output\XML\2017-02-09\Toyota Q4 results\Toyota Q4 results - 001.xml</MetadataFile>
    <MediaFolder>C:\Woody Demo\Output\MXF\2017-02-09\Toyota Q4 results</MediaFolder>
    <MediaFile>C:\Woody Demo\Output\MXF\2017-02-09\Toyota Q4 results\Toyota Q4 results - 001.mxf</MediaFile>
    <Video>AVC-Intra 100 (1080i/50)</Video>
    <Audio>48000Hz - 16bits - 4 channels</Audio>
  </Target>
  <DescriptiveMetadata>
    <Metadata source="user" name="Show">Business</Metadata>
    <Metadata source="user" name="Journalist">Laura</Metadata>
    <Metadata source="user" name="Topic">Toyota Q4 results</Metadata>
  </DescriptiveMetadata>
</WoodyAsset>
```

① Notes

- Metadata related to a single clip, such as name, duration, date, moId, cannot be used for grouping functions (subfolders and shotlists)
- Ingest metadata cannot be used for the clips renaming.
- The configuration of Woody in2it profiles is described in the Setup Guide dedicated.

7. Technical requirements

Recommended hardware

- Quad Core CPU Xeon E5-2620 2,1 Ghz or higher
- 8GB RAM
- HDD 500 GB
- Gigabit Ethernet network, connection to Avid ISIS storage in zone 1, 2 or 3.
- USB 3 connectivity is recommended to get the highest transfer speed for the connected volumes
- Operating System: Windows 7 - 64 bits, Windows 8 or Windows 10 are supported
- Optimal screen resolution to use [Woody in2it](#): 1920 x 1080

Pre-requisites

- Chromium 32bits browser from version 35 (included in [Woody in2it](#) installer)
- Windows Media Player (WMP plug-in for Chromium is included in [Woody in2it](#) installer)

Requirements for Avid Interplay mode

- Avid ISIS client v 1.4 or higher (Nexis supported)
- Interplay Server v 1.2.3 or higher
- Interplay WebServices v 2.2 or higher
- Interplay account with read and write permissions in the target folders

<http://support.woody-technologies.com>