

Intermediate Format Specification - UHD/SDR

Version 1.1

XAVC_UHD_SDR¹

Container ²	MXF OP1A	
Codec	XAVC Class 300 CBG	
Resolution	3840x2160	
Frame Rate	50p	
Video Bit Rate	500 Mbit/s	
Chroma Subsampling	4:2:2	
Bit Depth	10 Bit	
BlackRefLevel	64	
WhiteRefLevel	940	
Color Range	897	
Color Primaries ³	ITU-R BT.2020	
Transfer Characteristic ³	ITU-R BT. 2020	
Coding Equations ³	ITU-R BT.2020 NCL	
Peak Luminance	100 Nits	
Audio ⁴	8 Tracks ⁵	16 Tracks ⁶
Channel Count	1 Audiochannel = 1 Audiotrack	
Bit Depth	24 Bit	
Sampling Rate	48 KHz	
Coding	PCM	
Multichannel Audio	Discrete	

⁵ Raw Material	
Audio track allocation	
Audiotrack 1	Original Sound Left or Mic 1
Audiotrack 2	Original Sound Right or Mic 1
Audiotrack 3	Cam Mic Left or Mic 2
Audiotrack 4	Cam Mic Right or Mic 2
Audiotrack 5	Reserved
Audiotrack 6	Reserved
Audiotrack 7	Reserved
Audiotrack 8	Reserved

⁶ Programme Exchange	
Start Timecode	00:00:00:00
System Item Timecode	continuous
Content	no bars and tones - picture starts on first frame
Loudness	EBU R128
Audio track allocation: Multichannel Production	
Audiotrack 1	Stereo Left
Audiotrack 2	Stereo Right
Audiotrack 3	Multichannel Left
Audiotrack 4	Multichannel Right
Audiotrack 5	Multichannel Center
Audiotrack 6	Multichannel LFE
Audiotrack 7	Multichannel Surround Left
Audiotrack 8	Multichannel Surround Right
Audiotrack 9	Stereo Left - 2nd Language / Audio Description
Audiotrack 10	Stereo Right - 2nd Language / Audio Description
Audiotrack 11	Multichannel Left - 2nd Language / International Stereo Left
Audiotrack 12	Multichannel Right - 2nd Language / International Stereo Right
Audiotrack 13	Multichannel Center - 2nd Language / Reserved
Audiotrack 14	Multichannel LFE - 2nd Language / Reserved
Audiotrack 15	Multichannel Surround Left - 2nd Language / Reserved
Audiotrack 16	Multichannel Surround Right - 2nd Language / Reserved
Audio track allocation: Stereo Production	
Audiotrack 1	Stereo Left
Audiotrack 2	Stereo Right
Audiotrack 3	International Stereo Left
Audiotrack 4	International Stereo Right
Audiotrack 5	Stereo Left - 2nd Language / Audio Description
Audiotrack 6	Stereo Right - 2nd Language / Audio Description
Audiotrack 7	Reserved
Audiotrack 8	Reserved
Audiotrack 9	Reserved
Audiotrack 10	Reserved
Audiotrack 11	Reserved
Audiotrack 12	Reserved
Audiotrack 13	Reserved
Audiotrack 14	Reserved
Audiotrack 15	Reserved
Audiotrack 16	Reserved

¹ XAVC Intra according SMPTE RDD32:2017
² Header Partition Status "Closed and Complete"
³ According IRT Operational Guideline "HDR signalisation in MXF for H.264" https://www.irt.de/en/publications/technical-guidelines/technical-guidelines-download/hdr-in-mxf
⁴ Unused tracks have to be filled with silence or muted Use of reserved tracks require bilateral agreement 8 Tracks only allowed for Raw Material

For technical support please contact: Quality Content Management gcm@orf.at
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