

PB\_05.005c\_2024-04-30 Supplement Fileformat UHDTV-HDR

**SUPPLEMENT**  
SPECIFICATION  
FILEFORMAT  
BROADCAST  
UHDTV-HDR

Author:	Heinzl, Fürst / TSA-H	Created:	2024-04-19
Proved:	Andreas Fraundorfer	Proved:	2024-04-24
Approval:	Alexander Hetfleisch	Approval:	2024-04-30
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## Intermediate Format Specification UHDTV-HDR

Version 1.1

<b>XAVC_UHD_HLG<sup>1</sup></b>	
Container <sup>2</sup>	MXF OP1A
Codec	XAVC Class 300 CBG
Resolution	3840 x 2160
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 <sup>3</sup>	ITU-R BT. 2020
Transfer Characteristic <sup>3</sup>	HLG OETF (ITU-R BT.2100-2)      System Gamma 1.2
Coding Equations <sup>3</sup>	ITU-R BT.2020 NCL
Peak Luminance	1000 Nits
Audio <sup>4</sup>	8 Tracks <sup>5</sup> 16 Tracks <sup>6</sup>
Channel Count	1 Audiochannel = 1 Audiotrack
Bit Depth	24 Bit
Sampling Rate	48 KHz
Coding	PCM
Multichannel audio	Discrete

<b><sup>5</sup>Raw Material</b>	
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

<b>6Programm Exchange</b>	
Start Timecode	00:00:00:00
System Item Timecode	continuous
Content	no bars and tones - picture starts on first frame
Loudness	EBU R128
<b>Audio track allocation: Multichannel Production</b>	
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
<b>Audio track allocation: Stereo Production</b>	
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

Footnote
<sup>1</sup> XAVC Intra according SMPTE RDD32:2017
<sup>2</sup> Header Partition Status "Closed and Complete"
<sup>3</sup> According IRT Operational Guideline -Draft "HDR signalisation in MXF for H.264, Version 0.1" <a href="https://beschaffung.orf.at/agb">https://beschaffung.orf.at/agb</a>
<sup>4</sup> 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 E-Mail: [qcm@orf.at](mailto:qcm@orf.at)