



**SMPTE ER 2121-3:2018 Business Requirements - Audit of Business Requirements for SMPTE TSP 2121-1:2018**

SMPTE ER 2121-2:2018 Interoperable Master Format - TSP Business Requirements		SMPTE TSP 2121-1:2018 Interoperable Master Format - Application DPP (ProRes)		Has the Requirement been met	Additional Notes
ER 2121-2 Reference	Text	TSP 2121-1 Reference	Text/Table	1 = fully 2 = partially 3 = see additional notes	
3 - 1	Allow the use of ProRes, JPEG 2000 [and H.264] video codecs as detailed under "Codec Parameters" in Table 1 of Annex A (via separate Specifications for each codec).	5.1 & 6.4	Tables 1 and 4	1	
3 - 2	Maintain high quality image by including minimum data rates requirements for each codec as detailed in Table 2 of Annex A.	6.4	Table 4	1	
3 - 3	Constrain image parameters to those described in ITU-R BT.2100 – "Image parameter values for high dynamic range television for use in production and international programme exchange."	5.1, 5.2.1 plus Annex C & D	Tables 1,2 and 3 Tables C1 and D1 to D5	1	
3 - 4	Include the option to allow the use of the legacy colour space defined as COLOR.3 in SMPTE ST 2067-20 Section 6.	5.1	Table 1	1	
3 - 5	Constrain image parameters of SMPTE RDD 45 and SMPTE ST 2067-21 to those referenced under "Video Parameters" in Table 1 of Annex A.	5.1, 5.2.1 plus Annex C & D	Tables 1,2 and 3 Table C1 and D1 to D5	1	HLG as COLOR.8DPP is additional to the Video Parameters defined in SMPTE RDD 45 and SMPTE ST 2067-21. COLOR.8DPP is therefore defined in SMPTE TSP 2121-1:2018
3 - 6	Constrain the audio parameters of SMPTE ST 2067-2 to those referenced under "Audio Parameters" in Table 1 of A.	8	<i>The provisions of SMPTE ST 2067-2 2016 shall apply</i>	1	
3 - 7	Enable the use of the following Access Service options described under "Access Service Requirements" in Table 1 of Annex A.	See sub sections 3 - 7 a to c			
3 - 7 a	Captioning/subtitling – IMSC1.0.1, EBU-TT-D, EBU STL, CTA 608 - desired to update to IMSC1.1 when supported.	10.1	<i>The provisions of SMPTE 2067-2:2016 shall apply</i>	2	IMSC 1.0.1 and EBU-TT-D met in full DPP agreed EBU STL should be held over for further discussion and DPP process development if needed CTA 608 (and CTA 709) included as defined in SMPTE ST 2067-2
3 - 7 b	Audio Description (Described Video Service) – either fully rendered mix or dialogue plus control which can be a rendered audio track (left Dialogue, right Control) – it is hoped dialogue and control will be supported in SMPTE ST 2067 at a later date,	10.2 & 10.2.1	Option 1 - One or more fully rendered audio soundfield(s) Option 2 - One or more monaural audio channels (VIN) Option 3 - Described in SMPTE ST 2121-1	1	Option 1 - reference SMPTE ST 2067-8 Option 2 - reference SMPTE ST 428-12/SMPTE ST 2067-8 Option 3 - reference section 10.2.1 with Table 6 and 7
3 - 7 c	Signing service – as an alternate fully rendered video track until alternative options are supported in SMPTE ST 2067.	Not included		3	Currently signed video must be a fully rendered alternative video track. Signing Requirements will be met in the DPP Operational Guidelines documentation.
3 - 8	Allow the inclusion of (and use via OPL or other means) of AMWA AS-11 Descriptive metadata, SMPTE RDD 6 audio metadata and EBU.IO/QC template metadata as listed under "Metadata Requirements" in Table 1 of Annex A	9 Annex B.1, B.2, B.3 Annex E	<i>9. Additional static metadata should be included as assets in a Sidecar Composition Map as defined in SMPTE ST 2067-9:2018.</i>	1	Examples are given in Annex B: Example B1 - AMWA AS-11 UK DPP V.1.1 Example B2 - EBU QC Metadata Example B3 - SMPTE RDD 6 Audio Metadata
3 - 9	Carry CPL and OPL XML files such that all required editorial versions and technical delivery options can be fulfilled. (see notes in Annex B)	11 See sub sections 3 - 9 a to c	<i>11. The processing or transformation of compliant packages can be specified by OPLs. Within a given IMP each CPL the conforms to this specification could be referenced by at least one OPL in the same IMP.</i>		
3 - 9 a	CPLs must reference SMPTE ST 2067-3:2016	4	<i>The normative provisions of SMPTE RDD 45 shall apply in addition to those specified herein unless specified otherwise.</i>	1	SMPTE RDD 45 Section 4 references SMPTE ST 2067-2
3 - 9 b	OPL(s) must reference SMPTE ST 2067-101:2014	11	<i>The processing or transformation of compliant packages can be specified by OPLs. Within a given IMP each CPL the conforms to this specification could be referenced by at least one OPL in the same IMP.</i>	3	Simple OPLs exist to facilitate the development of both workflows and OPL Processors. Complex OPLs to fully automate IMP output will be developed for Phase 2.
3 - 9 c	OPL(s) to create AMWA AS-11 V1.1 and AMWA AS-11 X series delivery are desirable	11 Annex B.4	As above	3	Requirements for OPLs to "produce" compliant AMWA AS-11 output files will be defined in the DPP Operational Documents until SMPTE normative text can be referenced.
3 - 9 d	OPL(s) to create SMPTE ST 2067-21 delivery are desirable	11		3	Requirements for OPLs to "produce" specific SMPTE ST 2067-21 output IMPs will be defined in the DPP Operational Documents until SMPTE normative text can be referenced.
3 - 9 e	OPL(s) able to create a future proposed SMPTE TSP[J2K] and possible TSP[H.264] delivery are desirable	11		3	Requirements for OPLs to "produce" other SMPTE TSP IMPs will be defined in the DPP Operational Documents until SMPTE normative text can be referenced

SMPTE TSP 2121-1:2018 Comment and Resolution Document



ID	Name	DATE	Comment	Resolution #1	Resolution #2	Resolution
TSP 2121-1/ 01	Thomas Bause Mason	2018/07/18	As requested we reviewed the TSP boilerplate as presented in [1] and SMPTE HQ confirms its up-to-date. We will apply a few changes prior to publication;	n/a	-	Closed
TSP 2121-1/ 02	Pierre Lemieux	2018/07/19	So was an "audit" performed?	The DPP IMF WG has discussed changes within the SMPTE TSP in detail and agreed on all points. A narrative is available via the WG minutes.	A document has been created to demonstrate how the SMPTE TSP meets the requirement of the ER	Closed
TSP 2121-1/ 03	Andy Quested	2018/08/01	Final ZIP pack to TC chairs			Closed
TSP 2121-1/ 04	Pierre Lemieux	2018/08/02	Requests for HLG Peak Brightness UL registration request pack	Sent by Document Editor on 2018/08/02	Note to PM35 Group sent 2018/08/03	Closed
TSP 2121-1/ 05	35PM TC Chairs	2018/08/02				
TSP 2121-1/ 06	Gregor Zander	2018/08/02	I have a question about Annex C.1. Is HLGDisplayPeakLuminance the same as "MasterDisplayMaximumLuminance" from Section C.1 of SMPTE ST 2067-21:2016?	Document Editor: One would have thought so but unfortunately not (as I could have simply referenced it in the TSP) - it is not needed for HLG at all but has been asked for as a guide for conversion to other potentially metadata dependent systems. It could be said to be a target for conversion and is purely an "on request" parameter.	BBC R&D Response: You are correct that the new HLGDisplayPeakLuminance metadata item is not the same as MasterDisplayMaximumLuminance. MXF metadata is quite specific as to how the metadata is used: while this is some kind of "peak luminance" attribute, the purpose of it is different.  ACTION: DPP to remove HLGDisplayPeakLuminance metadata text in the TSP	Closed
TSP 2121-1/ 07	Gregor Zander	2018/08/02	There is a typo in HLGDisplayPeakLuminance. Someone missed the 'a' in Peak.	To be corrected by Document Editor	DPP Dropbox Draft CD Version updated	Closed
TSP 2121-1/ 08	Bruce Devlin	2018/08/10	It has been spotted that the boiler plate in the Forward says:  This SMPTE Technical Specification was prepared by TC 35PM and The Digital Production Partnership  - We don't credit authors in SMPTE documents. The sentence should be removed before sending to HQ. Contact information for the proponents is present elsewhere in the docs and nothing is lost. I think the actions are: - Remove the sentence from the final document before sending to HQ - Check part -2 and -3 for similar text and remove if needed - Make a note in the project log that the sentence was removed at the request of the SVP - Report the removal during the WG meeting - Forward final docs to HQ for processing directly after the WG meeting	To be corrected by Document Editor	1. Removed 2. Checked and confirmed 3. DPP log noted - asked re SMPTE log 4. Proponents to add to Agenda 5. Noted	Closed
TSP 2121-1/ 09	Florian Schleich	2018/08/10	Can you confirm that the register submission for TSP 2121-1 has reached Mature status? This would be a requirement for publication.	Request sent to SVP to chase as no response from 30MR10 NOTE - if this holds the TSP up we will remove. It is not needed for HLG users omit some PQ users	Status is currently initial draft. DPP to remove the text from the TSP.	Closed
TSP 2121-1/ 10	Bruce Devlin	2018/08/14	The IPR discussion and AG-08 request from the Director of Standards and Engineering was initiated on 26 July 2018. AG-08 form has not yet been received.	The Director of Standards and Engineering has requested that the known IPR holder (Apple Inc) should fill in the form AG-08 as would be required for a standard to be published. This action is currently with Apple but is unlikely to be completed quickly.  In the mean time the Director of Standards and the Standards Vice President have taken legal advice and propose the following course of action.  1. The TSP should reference the IPR contact information that appears on RDD 45  2. The project log should indicate that the IPR discussion and AG-08 request from the Director of Standards and Engineering was initiated on 26 July 2018  3. The project log should indicate that the AG-08 form has not yet been received.  4. HQ will create a placeholder row on the Specifications download page that says "AG-08 Licensing Document not yet received"	1. TSP Revised to add "This specification normatively references RDD 45. Implementers should consult that document for IPR licensing details"  2. Project log so noted that completed AG-08 not received and SMPTE DS&E has initiated request  3. So noted - AG08 for ProRes not yet recieved  4. Noted	Closed  Closed  Noted - Closed  Noted and note sent to TC charis to remind SVP and HQ- Closed