

REVISION TO DCI *DIGITAL CINEMA SYSTEM SPECIFICATION*

COMPLIANCE TEST PLAN, VERSION 1.2

CTP Revision items continue to be evaluated and will be posted after agreement by the DCI membership that the specific CTP Revision needs to modify the DCI *Digital Cinema System Specification, Compliance Test Plan, Version 1.2*. Suggested CTP Revision issues may be emailed to dci.info@dcimovies.com. Please include "CTP Revision" in the subject line.

DCI DCSS CTP v1.2 REVISION

30 APRIL 2014

Revision Date	Revision Stage Type	CTP v1.2 Page No.	Section(s) Affected	Problem Description	Revision Description
April 30, 2014	1	276	6.7.1 "Media Block Overlay"	The Procedures and Test Material table refers to an earlier set of subtitle test materials. Updated materials are now available	Replace section 6.7.1 in its entirety with the revised 6.7.1 below This adds detail for updated subtitle materials
April 30, 2014	1	307	7.5.1 "Projector Overlay"	The Procedures and Test Material table refers to an earlier set of subtitle test materials. Updated materials are now available	Replace section 7.5.1 in its entirety with the revised 7.5.1 below This adds detail for updated subtitle materials
April 30, 2014	1	431	Appendix A "Test Materials"	There are earlier subtitle test materials referenced. Updated materials are now available.	Replace Appendix A in its entirety with the revised Appendix A below Removed deprecated items. Added A.2.63 - A.2.218 and A.4.48 - A.4.56
April 30, 2014	1	New	Appendix I "Subtitle Test Evaluation and Pass/Fail Criteria"	Pass/fail criteria for some aspects of the subtitle test materials were not clearly specified	Add Appendix I (after Appendix H) in its entirety per the below. Adds specific subtitle test evaluation and pass/fail criteria for the updated test materials

Section 6.7.1 "Projector Overlay"

Replace in its entirety with the following:

6.7. Timed Text Reproduction

6.7.1. Media Block Overlay

Objective

In the case that the Media Block implements an alpha channel overlay module, a subpicture renderer (a module that converts the subpicture file into a baseband image file with an alpha channel) and a Timed Text renderer (a module that converts Timed Text data into a baseband image file with an alpha channel), verify that assets are rendered and displayed correctly by the system.

Procedures

1. Using a digital cinema projector that does not provide an internal subtitle rendering capability (or one in which subtitle rendering capability is disabled), load and play back each of the compositions:
 - a. *2K Scope Subtitle Test (Encrypted)*, keyed with *KDM for 2K Scope Subtitle Test (Encrypted)*.
 - b. *2K Flat Subtitle Test (Encrypted)*, keyed with *KDM for 2K Flat Subtitle Test (Encrypted)*.
 - c. *2K Full Subtitle Test (Encrypted)*, keyed with *KDM for 2K Full Subtitle Test (Encrypted)*.
 - d. *4K Scope Subtitle Test (Encrypted)*, keyed with *KDM for 4K Scope Subtitle Test (Encrypted)*.
 - e. *4K Flat Subtitle Test (Encrypted)*, keyed with *KDM for 4K Flat Subtitle Test (Encrypted)*.
 - f. *4K Full Subtitle Test (Encrypted)*, keyed with *KDM for 4K Full Subtitle Test (Encrypted)*.
 - g. *2K 48fps Scope Subtitle Test (Encrypted)*, keyed with *KDM for 2K 48fps Scope Subtitle Test (Encrypted)*.
 - h. *2K 48fps Flat Subtitle Test (Encrypted)*, keyed with *KDM for 2K 48fps Flat Subtitle Test (Encrypted)*.
 - i. *2K 48fps Full Subtitle Test (Encrypted)*, keyed with *KDM for 2K 48fps Full Subtitle Test (Encrypted)*.
2. Refer to Appendix I and for each scene in each composition, record the state of compliance with the basic and specific pass/fail criteria listed therein. Failure of any compliance criterion is cause to fail this test.

Supporting Materials

Reference Document ID	Reference Document Section(s)
[DCI-DCSS-1-2] [SMPTE-429-2]	7.5.4.2.5, 7.5.4.2.6, 7.5.4.2.7

Test Equipment
DCI Projector

Test Material
2K Scope Subtitle Test (Encrypted)
2K Flat Subtitle Test (Encrypted)

Test Material
2K Full Subtitle Test (Encrypted)
4K Scope Subtitle Test (Encrypted)
4K Flat Subtitle Test (Encrypted)
4K Full Subtitle Test (Encrypted)
2K 48fps Scope Subtitle Test (Encrypted)
2K 48fps Flat Subtitle Test (Encrypted)
2K 48fps Full Subtitle Test (Encrypted)
KDM for 2K Scope Subtitle Test (Encrypted)
KDM for 2K Flat Subtitle Test (Encrypted)
KDM for 2K Full Subtitle Test (Encrypted)
KDM for 4K Scope Subtitle Test (Encrypted)
KDM for 4K Flat Subtitle Test (Encrypted)
KDM for 4K Full Subtitle Test (Encrypted)
KDM for 2K 48fps Scope Subtitle Test (Encrypted)
KDM for 2K 48fps Flat Subtitle Test (Encrypted)
KDM for 2K 48fps Full Subtitle Test (Encrypted)

Section 7.5.1 "Media Block Overlay"

Replace in its entirety with the following:

7.5. Projector Image Reproduction

7.5.1. Projector Overlay

Objective

In the case that the Projector implements an alpha channel overlay module, a subpicture renderer (a module that converts the subpicture file into a baseband image file with an alpha channel) and a Timed Text renderer (a module that converts Timed Text data into a baseband image file with an alpha channel), verify that assets are rendered and displayed correctly by the system.

Procedures

1. Using a digital cinema server that does not provide an internal subtitle rendering capability (or one in which subtitle rendering capability is disabled), load and play each of the compositions:
 - a. *2K Scope Subtitle Test (Encrypted)*, keyed with *KDM for 2K Scope Subtitle Test (Encrypted)*.
 - b. *2K Flat Subtitle Test (Encrypted)*, keyed with *KDM for 2K Flat Subtitle Test (Encrypted)*.
 - c. *2K Full Subtitle Test (Encrypted)*, keyed with *KDM for 2K Full Subtitle Test (Encrypted)*.
 - d. *4K Scope Subtitle Test (Encrypted)*, keyed with *KDM for 4K Scope Subtitle Test (Encrypted)*.
 - e. *4K Flat Subtitle Test (Encrypted)*, keyed with *KDM for 4K Flat Subtitle Test (Encrypted)*.
 - f. *4K Full Subtitle Test (Encrypted)*, keyed with *KDM for 4K Full Subtitle Test (Encrypted)*.
 - g. *2K 48fps Scope Subtitle Test (Encrypted)*, keyed with *KDM for 2K 48fps Scope Subtitle Test (Encrypted)*.
 - h. *2K 48fps Flat Subtitle Test (Encrypted)*, keyed with *KDM for 2K 48fps Flat Subtitle Test (Encrypted)*.
 - i. *2K 48fps Full Subtitle Test (Encrypted)*, keyed with *KDM for 2K 48fps Full Subtitle Test (Encrypted)*.
2. Refer to Appendix I and for each scene in each composition, record the state of compliance with the basic and specific pass/fail criteria listed therein. Failure of any compliance criterion is cause to fail this test.

Supporting Materials

Reference Document ID	Reference Document Section(s)
[DCI-DCSS-1-2] [SMPTE-429-2]	7.4.4.2.5, 7.5.4.2.6, 7.5.4.2.7

Test Equipment
DCI Server

Test Material
2K Scope Subtitle Test (Encrypted)
2K Flat Subtitle Test (Encrypted)

Test Material
2K Full Subtitle Test (Encrypted)
4K Scope Subtitle Test (Encrypted)
4K Flat Subtitle Test (Encrypted)
4K Full Subtitle Test (Encrypted)
2K 48fps Scope Subtitle Test (Encrypted)
2K 48fps Flat Subtitle Test (Encrypted)
2K 48fps Full Subtitle Test (Encrypted)
KDM for 2K Scope Subtitle Test (Encrypted)
KDM for 2K Flat Subtitle Test (Encrypted)
KDM for 2K Full Subtitle Test (Encrypted)
KDM for 4K Scope Subtitle Test (Encrypted)
KDM for 4K Flat Subtitle Test (Encrypted)
KDM for 4K Full Subtitle Test (Encrypted)
KDM for 2K 48fps Scope Subtitle Test (Encrypted)
KDM for 2K 48fps Flat Subtitle Test (Encrypted)
KDM for 2K 48fps Full Subtitle Test (Encrypted)

Appendix A "Test Materials"

Replace in its entirety with the following:

Appendix A. Test Materials

A.1. Overview

To facilitate consistent testing of d-cinema equipment, a set of reference files has been produced to be used as directed in the respective test procedures. These materials are described in detail in this Appendix with the intention that the materials can be re-created from the descriptions and used to achieve testing results equivalent to those achieved with the original reference files.

The test material described below consists of digital certificates, Key Delivery Messages (KDM) and D-Cinema Packages (DCP). A DCP can be further deconstructed as a set of Track Files, Composition Playlists and related file descriptions. Some Track Files will be encrypted.

Because the identity of a Test Subject cannot be known until the device has been manufactured, it is not possible to create reference KDM files in advance. It is therefore necessary to divide the test material into two categories: common-use reference material and per-device reference material. Common-use reference material can be created once and used without limit on any compliant system. Per-device reference material must be created for each Test Subject, with foreknowledge of the date and time of the test session.

Two additional categories of reference material exist: compliant and intentionally non-compliant. Most of the material will be "golden" reference files, intended to be entirely compliant with the relevant specifications. Other files, however, will be intentionally broken to allow testing of error detection and recovery mechanisms.

A.2. Images

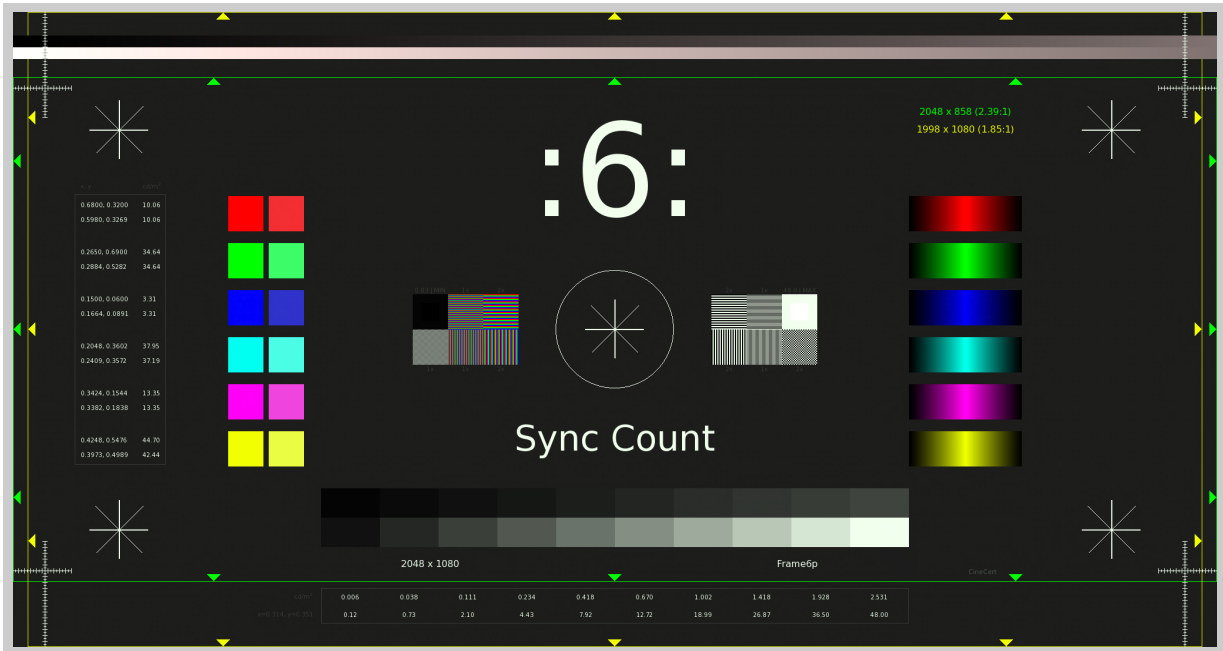
A.2.1. Introduction

This section defines a set of MXF picture track files. For each track file, a description is given which details the images encoded in the file. The image track files will be combined with sound files to make complete compositions (see Section A.4).

A.2.2. Sync Count

Item Data	Data Description
type:	MXF j2c
filename:	sync_count_j2c_pt.mxf
description:	MXF track file containing five seconds (120 frames) of plain frames followed by a ten second countdown and five seconds of plain frames. The countdown consists of ten identical one-second count segments, from 9-0. Each count segment consists of twenty-four frames of the respective digit for the count period. The first frame of each count segment will have a punch set to indicate sync. The example image below shows the first frame of the fourth count period, which contains the number 6 (six).
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.1. Sync Count



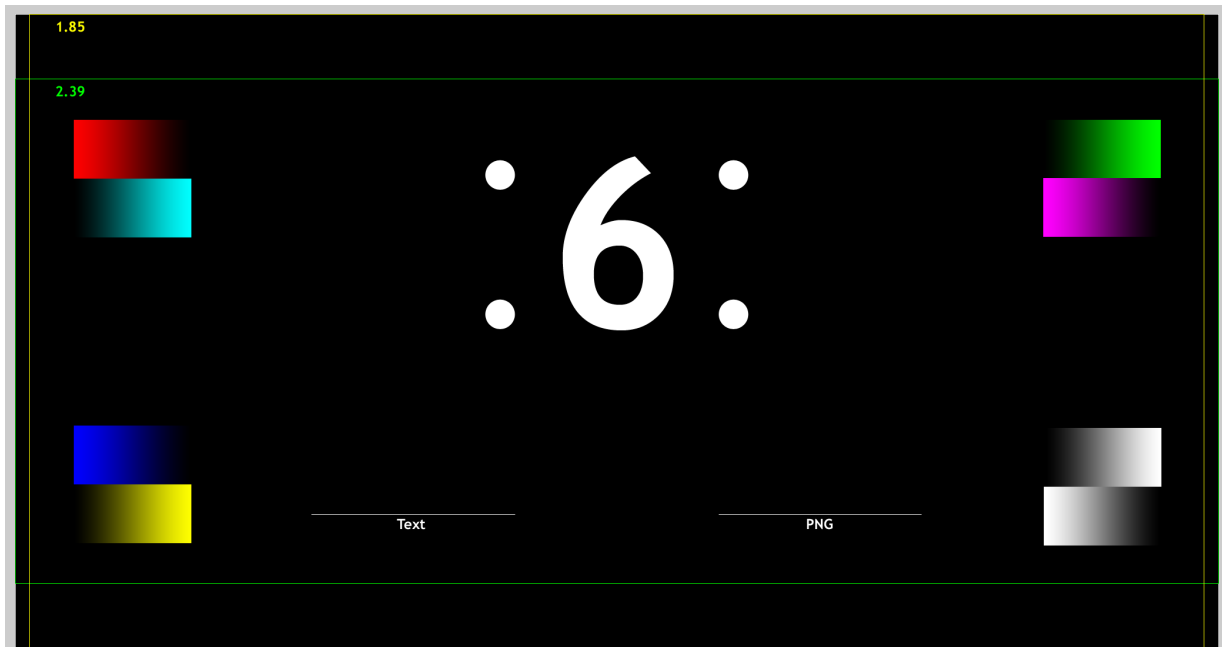
A.2.3. Sync Count (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	sync_count_j2c_ct.mxf
description:	Encrypted MXF track file, contents are identical to Section A.2.2: Sync Count.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.4. Sync Count with Subtitle Reticles

Item Data	Data Description
type:	MXF j2c
filename:	sync_count_with_subs_j2c_pt.mxf
description:	MXF track file containing five seconds (120 frames) of plain frames with reticles. followed by a ten second countdown and five seconds of plain frames with subtitle reticles. The countdown consists of ten identical one-second count segments, from 9-0. Each count segment consists of twenty-four frames of the respective digit for the count period. The first frame of each count segment will have a punch set to indicate sync. The example image below shows the first frame of the fourth count period, which contains the number 6 (six).
conforms to:	S377M-2004, S422M-2006, S429-3-2006, S429-4-2006
prerequisites:	None
malformations:	None
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.2. Sync Count with Subtitle Reticles



A.2.5. Sync Count with Subtitle Reticles (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	sync_count_with_subs_j2c_ct.mxf
description:	Encrypted MXF track file, contents are identical to Section A.2.4: Sync Count with Subtitle Reticles.
conforms to:	S377M-2004, S422M-2006, S429-3-2006, S429-4-2006, S429-6-2006
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.6. 4K Sync Count

Item Data	Data Description
type:	MXF j2c
filename:	4K_sync_count_j2c_pt.mxf
description:	4K Resolution MXF track file, contents are identical to Section A.2.2: Sync Count.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:20:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.7. Sync Count, 48fps

Item Data	Data Description
type:	MXF j2c
filename:	sync_count_48fps_j2c_pt.mxf
description:	48fps MXF track file containing five seconds (240 frames) of plain frames followed by a ten second countdown and five seconds of plain frames. The countdown consists of ten identical one- second count segments, from 9-0. Each count segment consists of forty-eight frames of the respective digit for the count period. The first two frames of each count segment will have a punch set to indicate sync.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.8. Channel I.D. 5.1

Item Data	Data Description
type:	MXF j2c
filename:	channel_id_51_j2c_pt.mxf
description:	MXF track file containing five seconds (120 frames) of plain frames followed by a thirty second audio channel identification set and five seconds of plain frames. The audio channel identification set consists of six identical five second identifier segments having the following consecutively displayed labels: Left, Center, Right, Left Surround, Right Surround, LFE. Each channel identifier segment consists of five seconds (120 frames) of the respective label.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:40:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

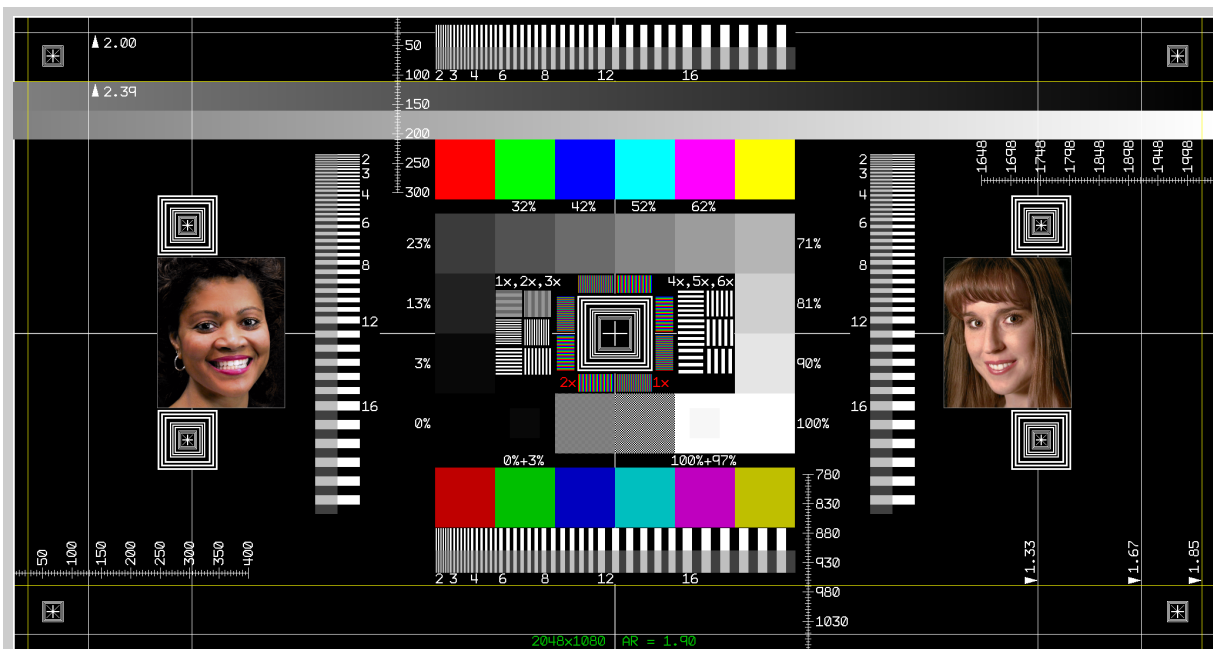
A.2.9. Channel I.D. 1-16

Item Data	Data Description
type:	MXF j2c
filename:	channel_id_01-16_j2c_pt.mxf
description:	MXF track file containing two seconds (48 frames) of plain frames followed by an eighty second audio channel identification set and two seconds of plain frames. The audio channel identification set consists of sixteen identical five-second identifier segments displaying consecutively numbered channel labels: 1, 2, 3, 4, etc. through 16. Each channel identifier segment consists of five seconds (120 frames) of the respective label.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:01:24:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.10. "NIST" 2K Test Pattern

Item Data	Data Description
type:	MXF j2c
filename:	nist_2k_test_pattern_j2c_pt.mxf
description:	MXF track file containing the "DCI NIST" pattern created during original DCI research project. The pattern (shown below) includes geometric dimensions, color chips, dimensional patterns, a grayscale gradient and full-color photographic images. The track file contains 30 seconds (720 frames) of this image. <i>Note: This image was obtained during the initial DCI study effort. It is used in the CTP because it is familiar to many in the d-cinema industry. The edge offset reticles are not accurate, however they are not used by any CTP procedure.</i>
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.3. "NIST" 2K Test Pattern



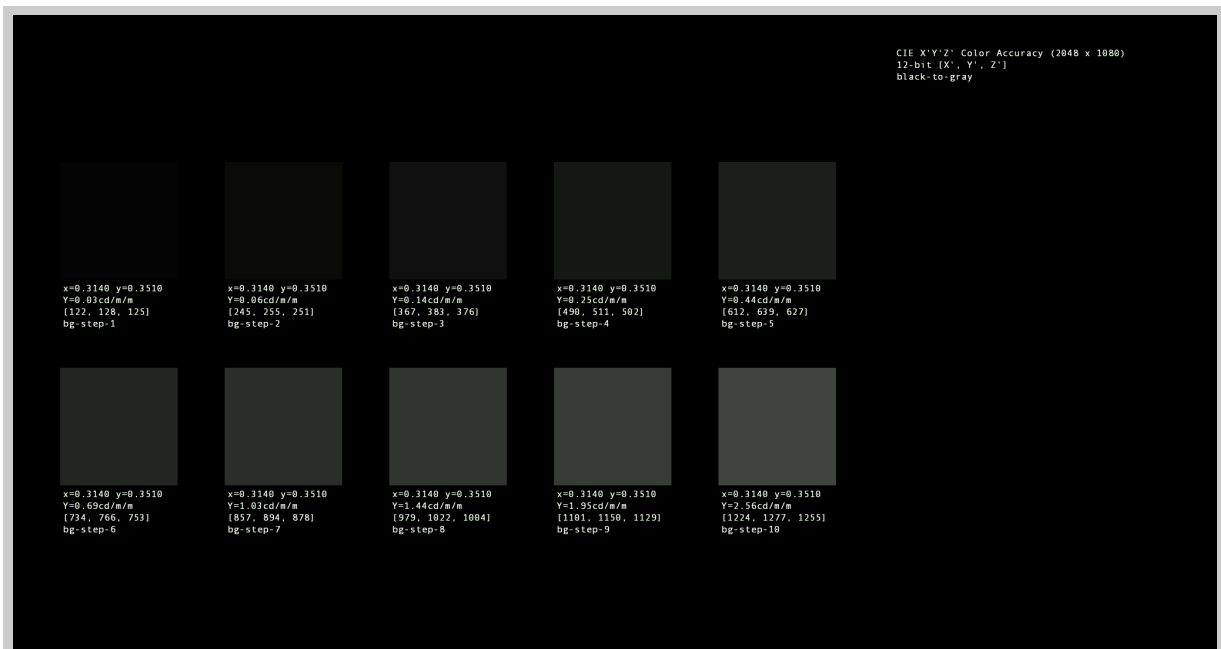
A.2.11. "NIST" 4K Test Pattern

Item Data	Data Description
type:	MXF j2c
filename:	4K_nist_test_pattern_j2c_pt.mxf
description:	4K Resolution MXF track file containing the "DCI NIST" pattern as shown in Section A.2.10: "NIST" 2K Test Pattern. The track file contains 30 seconds (720 frames) of this image. <i>Note: This image was obtained during the initial DCI study effort. It is used in the CTP because it is familiar to many in the d-cinema industry. The edge offset reticles are not accurate, however they are not used by any CTP procedure.</i>
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:30:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.12. Black to Gray Step Series

Item Data	Data Description
type:	MXF j2c
filename:	gray_step_j2c_pt.mxf
description:	MXF track file containing five seconds (120 frames) of a chart showing all gray step values for the Black to Gray values in Section 7.5.9: Grayscale Tracking. This is followed by 1 minute of each of the 10 values as a full frame.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:11:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.4. Black to Gray Step Series



A.2.13. Black to White Step Series

Item Data	Data Description
type:	MXF j2c
filename:	white_step_j2c_pt.mxf
description:	MXF track file containing five seconds (120 frames) of a chart showing all gray step values for the Black to White values in Section 7.5.9: Grayscale Tracking. This is followed by 1 minute of each of the 10 values as a full frame.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:11:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.5. Black to White Step Series



A.2.14. Color Accuracy Series

Item Data	Data Description
type:	MXF j2c
filename:	color_accuracy_j2c_pt.mxf
description:	MXF track file containing five seconds (120 frames) of a chart showing all color values for the test in Section 7.5.12: Color Accuracy. This is followed by 1 minute of each of the 12 color values as a full frame.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:12:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.6. Color Accuracy Series



A.2.15. 4K Color Accuracy Series

Item Data	Data Description
type:	MXF j2c
filename:	4K_color_accuracy_j2c_pt.mxf
description:	MXF track file containing the 4K version of the Color Accuracy Series shown in Section A.2.14: Color Accuracy Series.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	12:05:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.16. Black (Empty Frame)

Item Data	Data Description
type:	MXF j2c
filename:	black_j2c_pt.mxf
description:	MXF track file containing 30 seconds (720 frames) of black (all pixels zero).
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.17. White (White Frame)

Item Data	Data Description
type:	MXF j2c
filename:	white_j2c_pt.mxf
description:	MXF track file containing 30 seconds (720 frames) of white.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.18. Intra-Frame Contrast Sequence

Item Data	Data Description
type:	MXF j2c
filename:	2K_checkerboard_j2c_pt.mxf
description:	MXF track file containing alternating checkerboard patterns and an aiming target.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.7. Intra-Frame Contrast Sequence



A.2.19. Sequential Contrast Sequence

Item Data	Data Description
type:	MXF j2c
filename:	2K_sequential_contrast_j2c_pt.mxf
description:	MXF track file containing black, white and aiming target frames.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.20. 2K Picture Track File, Maximum Bitrate

Item Data	Data Description
type:	MXF j2c
filename:	2K_max_bitrate_j2c_ct.mxf
description:	Encrypted MXF track file containing a count to check synchronization between picture and sound, 10 minutes (14,400 frames) of a frame that has a large file size (1,281,818 bytes) and a second sync count.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:10:40:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

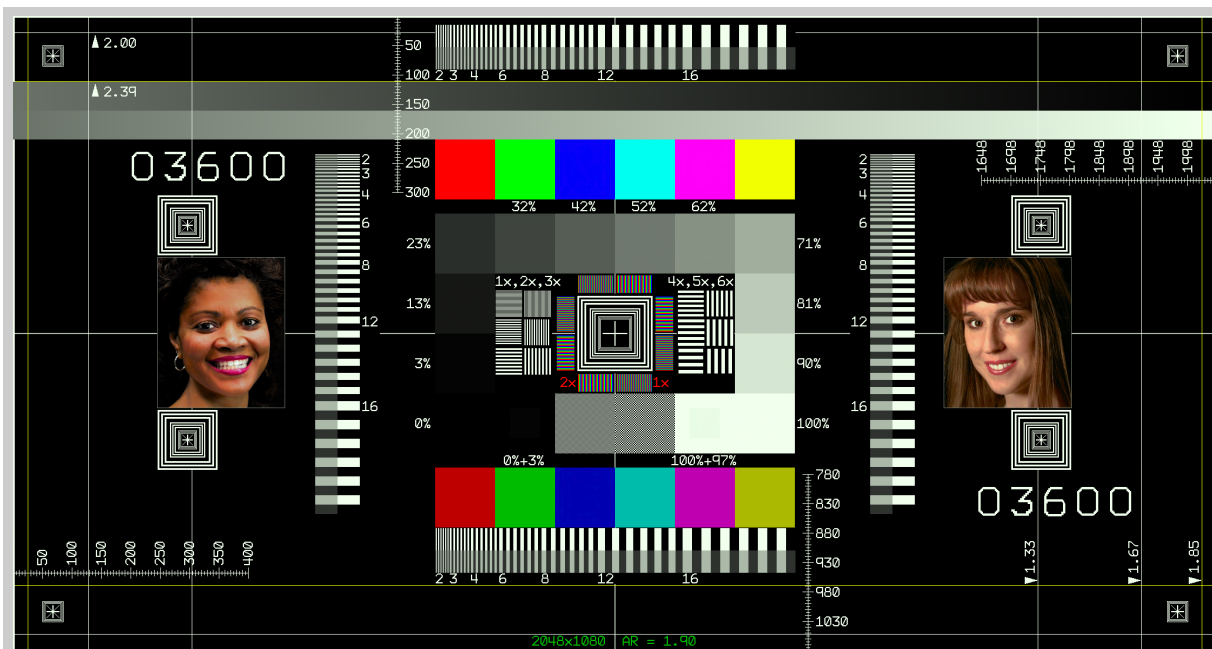
A.2.21. 4K Picture Track File, Maximum Bitrate

Item Data	Data Description
type:	MXF j2c
filename:	4K_max_bitrate_j2c_ct.mxf
description:	Encrypted MXF track file containing a count to check synchronization between picture and sound, 10 minutes (14,400 frames) of a frame that has a large file size (1,299,183 bytes) and a second sync count.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:10:40:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.22. DCI Numbered Frame Sequence

Item Data	Data Description
type:	MXF j2c
filename:	frame_num_burn_in_j2c_pt.mxf
description:	MXF track file containing a sequence of the "DCI NIST" frame that has an overlay of two identical visible number fields. The five digit field contains 00000 in the first frame of the file, with each consecutive frame increasing the count by 1. The last frame will be numbered 07199.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:05:00:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.8. DCI Numbered Frame Sequence



A.2.23. DCI Numbered Frame Sequence (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	frame_num_burn_in_j2c_ct.mxf
description:	MXF track file containing a sequence of the "DCI NIST" frame that has an overlay of two identical visible number fields. The five digit field contains 00000 in the first frame of the file, with each consecutive frame increasing the count by 1. The last frame will be numbered 07199.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:05:00:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.24. DCI Scope Transition Sequence

Item Data	Data Description
type:	MXF j2c
filename:	transition-scope_j2c_pt.mxf
description:	MXF track file containing a sequence of Scope format (A.R. 2.39:1) plain frames, and the label "Scope Transition Test Sequence (2048 x 858)". Each of the first 24 frames of the sequence have two identical overlays displaying a number from 001 through 024. Each of the last 24 frames of the sequence have two identical overlays displaying a number from 024 through 001.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:10:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.25. DCI Flat Transition Sequence

Item Data	Data Description
type:	MXF j2c
filename:	transition-flat_j2c_pt.mxf
description:	MXF track file containing a sequence of Flat format (A.R. 1.85:1) plain frames, and the label "Flat Transition Test Sequence (1998 x 1024)". Each of the first 24 frames of the sequence have two identical overlays displaying a number from 001 through 024. Each of the last 24 frames of the sequence have two identical overlays displaying a number from 024 through 001.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:10:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.26. StEM 2K

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_pt.mxf
description:	MXF track file containing the complete DCI StEM Mini Movie.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	11:31:21
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.27. StEM 2K (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_ct.mxf
description:	Encrypted MXF track file containing the complete DCI StEM Mini Movie.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	11:31:21
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.28. StEM 2K Multi-Reel A (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_multi_A_ct.mxf
description:	A set of encrypted MXF track files containing 2k image essence for the DCI StEM Mini Movie. 128 files, each with a duration of 5 seconds.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: SegmentCount	128
meta: Encryption	AES-128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.29. StEM 2K Multi-Reel B (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_multi_B_ct.mxf
description:	A set of encrypted MXF track files containing 2k image essence for the DCI StEM Mini Movie. Identical to StEM_2K_j2c_multi_A_ct
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: SegmentCount	128
meta: Encryption	AES-128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.30. StEM 2K Multi-Reel A

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_multi_A_pt.mxf
description:	A set of plaintext MXF track files containing 2k image essence for the DCI StEM Mini Movie. 128 files, each with a duration of 5 seconds.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: SegmentCount	128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.31. StEM 2K Multi-Reel B

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_multi_B_pt.mxf
description:	A set of plaintext MXF track files containing 2k image essence for the DCI StEM Mini Movie. Identical to StEM_2K_j2c_multi_A_pt
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: SegmentCount	128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.32. StEM 2K Multi-Reel C (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_j2c_multi_C_ct.mxf
description:	A set of encrypted MXF track files containing 2k image essence for the DCI StEM Mini Movie. 64 files, each with a duration of 1 second.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: SegmentCount	64
meta: Encryption	AES-128
meta: SegmentDuration	00:01:00
meta: Duration	00:01:04:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.33. StEM 2K 48 fps

Item Data	Data Description
type:	MXF j2c
filename:	StEM_2K_48fps_j2c_pt.mxf
description:	MXF track file containing a 48 fps DCI StEM Mini Movie clip.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:51:46
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.34. pixel_structure_N_2k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_N_2k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.35. pixel_structure_S_2k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_S_2k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.36. pixel_structure_E_2k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_E_2k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.37. pixel_structure_W_2k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_W_2k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.38. pixel_structure_N_4k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_N_4k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.39. pixel_structure_S_4k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_S_4k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.40. pixel_structure_E_4k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_E_4k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

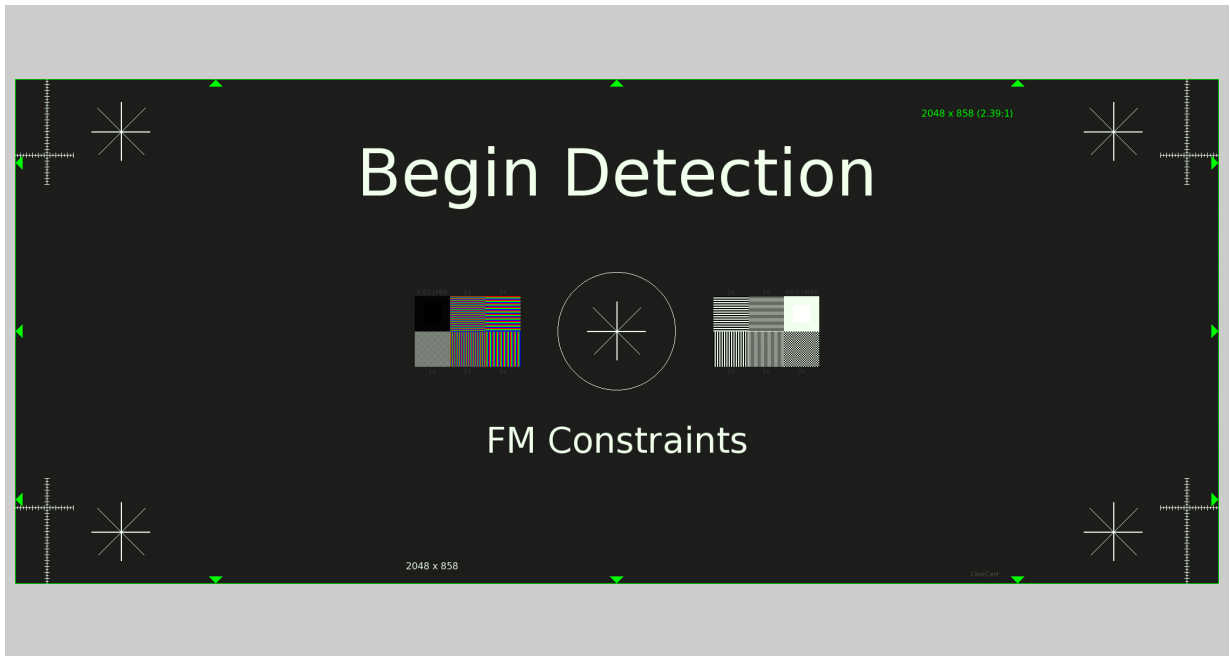
A.2.41. pixel_structure_W_4k_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	pixel_structure_W_4k_j2c_pt.mxf
description:	See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.42. FM Constraints Begin (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	fm_constraints_begin_j2c_ct.mxf
description:	Encrypted MXF track file with 10 seconds of slate reading "Begin Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

Figure A.9. FM Constraints Begin (Encrypted)



A.2.43. FM Constraints Begin (Plaintext)

Item Data	Data Description
type:	MXF j2c
filename:	fm_constraints_begin_j2c_pt.mxf
description:	Plaintext MXF track file with 10 seconds of slate reading "Begin Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.44. FM Constraints End (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	fm_constraints_end_j2c_ct.mxf
description:	Encrypted MXF track file with 10 seconds of slate reading "End Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.45. FM Constraints End (Plaintext)

Item Data	Data Description
type:	MXF j2c
filename:	fm_constraints_end_j2c_pt.mxf
description:	Plaintext MXF track file with 10 seconds of slate reading "End Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.46. 2K FM Control Granularity Begin (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	2K_fm_control_granularity_begin_j2c_ct.mxf
description:	Encrypted MXF track file with 10 seconds of slate reading "Begin Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.47. 2K FM Control Granularity End (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	2K_fm_control_granularity_end_j2c_ct.mxf
description:	Encrypted MXF track file with 10 seconds of slate reading "End Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.48. 2K FM Payload Begin (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	2K_fm_payload_begin_j2c_ct.mxf
description:	Encrypted MXF tack file with 10 seconds of slate reading "Begin Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.49. 2K FM Payload End (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	2K_fm_payload_end_j2c_ct.mxf
description:	Encrypted MXF track file with 10 seconds of slate reading "End Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.50. Binary Audio FM Bypass

Item Data	Data Description
type:	MXF j2c
filename:	binary_audio_fm_bypass_j2c_pt.mxf
description:	Plaintext MXF track file with 10 minutes of slate reading "Binary Audio FM Bypass".
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:10:00:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.51. Selective FM Begin

Item Data	Data Description
type:	MXF j2c
filename:	selective_fm_begin_j2c_pt.mxf
description:	Plaintext MXF track file with 10 seconds of slate reading "Begin Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.52. Selective FM End

Item Data	Data Description
type:	MXF j2c
filename:	selective_fm_end_j2c_pt.mxf
description:	Plaintext MXF track file with 10 seconds of slate reading "End Detection" and 5 seconds of black.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.53. Timed Text Example with Missing Font

Item Data	Data Description
type:	MXF text
filename:	std_ctp_text_no_font_pt.mxf
description:	MXF track file containing timed text using an OpenType font.
conforms to:	S377-1, S429-3, S429-5
prerequisites:	None
malformations:	The font shall not be present in the track file.
meta: Duration	00:01:00:00
meta: EditRate	24/1

A.2.54. DCI_gradient_step_s_white_j2c_pt

Item Data	Data Description
type:	MXF j2c
filename:	DCI_gradient_step_s_white_j2c_pt.mxf
description:	See Section 6.5.2: Decoder Requirements for description.
conforms to:	S377-1, S422, S429-3, S429-4, RP431-2
prerequisites:	None
malformations:	None
meta: Duration	00:00:16:16
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

Figure A.10. DCI_gradient_step_s_white_j2c_pt



A.2.55. Sync Count Text

Item Data	Data Description
type:	MXF text
filename:	sync_count_tt_pt.mxf
description:	MXF track file containing timed text using a font and images.
conforms to:	S377-1, S429-3, S429-5, S428-7
prerequisites:	None
malformations:	None
meta: Duration	00:00:22:00
meta: EditRate	24/1

A.2.56. Sync Count Text (Encrypted)

Item Data	Data Description
type:	MXF text
filename:	sync_count_tt_ct.mxf
description:	Encrypted MXF track file containing timed text using a font and images.
conforms to:	S377-1, S429-3, S429-5
prerequisites:	None
malformations:	None
meta: Duration	00:00:22:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.57. subtitle background

Item Data	Data Description
type:	MXF j2c
filename:	subtitle_background_j2c_pt.mxf
description:	
conforms to:	S377-1, S429-3, S429-4, S422
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.58. m01 Picture Frame Out Of Order (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	m01_pict_frame_oo_j2c_ct.mxf
description:	Encrypted MXF track file containing the first 5 seconds (120 frames) of the NIST test pattern. The order of the first two frames has been deliberately swapped.
conforms to:	S377-1, S422, S429-3, S429-4, S429-6
prerequisites:	None
malformations:	The first two image frames of the track file have been swapped.
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.59. m03 Sound Splice

Item Data	Data Description
type:	MXF j2c
filename:	m03_snd_splc_j2c_pt.mxf
description:	MXF track file containing one minute (1440 frames) of plain frames with the label "m03 Sound Splice Test".
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.60. m05 Picture Track File With Wrong TrackFile ID (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	m05_pict_wrong_file_j2c_ct.mxf
description:	MXF track file in which the integrity pack of the 7th frame has the TrackFile ID replaced with a different value.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1
meta: CiphertextHeader	yes

A.2.61. m09 Picture track file with bad HMAC (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	m09_pict_bad_hmac_j2c_ct.mxf
description:	Picture track file in which one of the HMAC values for a single frame has been changed.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	The file contains a replacement EKL V packet for the seventh frame (index 6). The replacement packet is taken from another track file having a different PackageUID but encrypted with the same symmetric key.
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.62. m11 Picture With Bad Check Value (Encrypted)

Item Data	Data Description
type:	MXF j2c
filename:	m11_pict_bad_chuk_j2c_ct.mxf
description:	MXF track file containing one EKL V packet encrypted for another file.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.63. 2K Scope Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.64. 2K Scope Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.65. 2K Scope Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.66. 2K Scope Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.67. 2K Scope Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.68. 2K Scope Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.69. 2K Scope Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.70. 2K Scope Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.71. 2K Scope Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.72. 2K Scope Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_scope_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x858
meta: EditRate	24/1

A.2.73. 4K Scope Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.74. 4K Scope Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.75. 4K Scope Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.76. 4K Scope Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.77. 4K Scope Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.78. 4K Scope Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.79. 4K Scope Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.80. 4K Scope Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.81. 4K Scope Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.82. 4K Scope Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_scope_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	4096x1716
meta: EditRate	24/1

A.2.83. 2K 48fps Scope Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.84. 2K 48fps Scope Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.85. 2K 48fps Scope Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.86. 2K 48fps Scope Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.87. 2K 48fps Scope Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.88. 2K 48fps Scope Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.89. 2K 48fps Scope Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.90. 2K 48fps Scope Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.91. 2K 48fps Scope Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.92. 2K 48fps Scope Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_scope_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.93. 2K Flat Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.94. 2K Flat Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.95. 2K Flat Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.96. 2K Flat Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.97. 2K Flat Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.98. 2K Flat Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.99. 2K Flat Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.100. 2K Flat Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.101. 2K Flat Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.102. 2K Flat Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_flat_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	1998x1080
meta: EditRate	24/1

A.2.103. 4K Flat Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.104. 4K Flat Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.105. 4K Flat Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.106. 4K Flat Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.107. 4K Flat Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.108. 4K Flat Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.109. 4K Flat Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.110. 4K Flat Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.111. 4K Flat Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.112. 4K Flat Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_flat_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	3996x2160
meta: EditRate	24/1

A.2.113. 2K 48fps Flat Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.114. 2K 48fps Flat Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.115. 2K 48fps Flat Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.116. 2K 48fps Flat Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.117. 2K 48fps Flat Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.118. 2K 48fps Flat Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.119. 2K 48fps Flat Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.120. 2K 48fps Flat Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	1998x1080
meta: EditRate	48/1

A.2.121. 2K 48fps Flat Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.122. 2K 48fps Flat Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_flat_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x858
meta: EditRate	48/1

A.2.123. 2K Full Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.124. 2K Full Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.125. 2K Full Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.126. 2K Full Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.127. 2K Full Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.128. 2K Full Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.129. 2K Full Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.130. 2K Full Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.131. 2K Full Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.132. 2K Full Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_2K_full_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	24/1

A.2.133. 4K Full Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.134. 4K Full Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.135. 4K Full Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.136. 4K Full Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.137. 4K Full Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.138. 4K Full Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.139. 4K Full Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.140. 4K Full Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.141. 4K Full Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.142. 4K Full Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_4K_full_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	4096x2160
meta: EditRate	24/1

A.2.143. 2K 48fps Full Subtitle Test Background - Reel 1

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_00_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:14:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.144. 2K 48fps Full Subtitle Test Background - Reel 2

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_01_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:40:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.145. 2K 48fps Full Subtitle Test Background - Reel 3

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_02_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:52:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.146. 2K 48fps Full Subtitle Test Background - Reel 4

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_03_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:20:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.147. 2K 48fps Full Subtitle Test Background - Reel 5

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_04_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.148. 2K 48fps Full Subtitle Test Background - Reel 6

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_05_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:15:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.149. 2K 48fps Full Subtitle Test Background - Reel 7

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_06_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:31:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.150. 2K 48fps Full Subtitle Test Background - Reel 8

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_07_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:10:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.151. 2K 48fps Full Subtitle Test Background - Reel 9

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_08_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:01:45:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.152. 2K 48fps Full Subtitle Test Background - Reel 10

Item Data	Data Description
type:	MXF j2c
filename:	sub_test_48fps_full_09_j2c_ct.mxf
description:	
conforms to:	S377-1, S428-7, S429-2, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:30:00
meta: PixelArraySize	2048x1080
meta: EditRate	48/1

A.2.153. 2K Scope Subtitle Test - Timed Text track file - Reel 1

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_00_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.154. 2K Scope Subtitle Test - Timed Text track file - Reel 2

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_01_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.155. 2K Scope Subtitle Test - Timed Text track file - Reel 3

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_02_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.156. 2K Scope Subtitle Test - Timed Text track file - Reel 4

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_03_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.157. 2K Scope Subtitle Test - Timed Text track file - Reel 5

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_04_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.158. 2K Scope Subtitle Test - Timed Text track file - Reel 6

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_05_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.159. 2K Scope Subtitle Test - Timed Text track file - Reel 7

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_06_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.160. 2K Scope Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.161. 2K Scope Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.162. 2K Scope Subtitle Test - Timed Text track file - Reel 10

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_scope_09_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.163. 4K Scope Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_4K_scope_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.164. 4K Scope Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_4K_scope_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.165. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 1

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_00_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.166. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 2

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_01_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.167. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 3

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_02_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.168. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 4

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_03_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.169. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 5

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_04_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.170. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 6

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_05_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.171. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 7

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_06_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.172. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.173. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.174. 2K 48fps Scope Subtitle Test - Timed Text track file - Reel 10

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_scope_09_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.175. 2K Flat Subtitle Test - Timed Text track file - Reel 1

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_00_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.176. 2K Flat Subtitle Test - Timed Text track file - Reel 2

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_01_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.177. 2K Flat Subtitle Test - Timed Text track file - Reel 3

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_02_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.178. 2K Flat Subtitle Test - Timed Text track file - Reel 4

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_03_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.179. 2K Flat Subtitle Test - Timed Text track file - Reel 5

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_04_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.180. 2K Flat Subtitle Test - Timed Text track file - Reel 6

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_05_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.181. 2K Flat Subtitle Test - Timed Text track file - Reel 7

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_06_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.182. 2K Flat Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.183. 2K Flat Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.184. 2K Flat Subtitle Test - Timed Text track file - Reel 10

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_flat_09_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.185. 4K Flat Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_4K_flat_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.186. 4K Flat Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_4K_flat_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.187. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 1

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_00_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.188. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 2

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_01_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.189. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 3

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_02_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.190. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 4

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_03_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.191. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 5

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_04_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.192. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 6

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_05_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.193. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 7

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_06_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.194. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.195. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.196. 2K 48fps Flat Subtitle Test - Timed Text track file - Reel 10

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_flat_09_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.197. 2K Full Subtitle Test - Timed Text track file - Reel 1

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_00_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.198. 2K Full Subtitle Test - Timed Text track file - Reel 2

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_01_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.199. 2K Full Subtitle Test - Timed Text track file - Reel 3

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_02_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.200. 2K Full Subtitle Test - Timed Text track file - Reel 4

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_03_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.201. 2K Full Subtitle Test - Timed Text track file - Reel 5

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_04_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.202. 2K Full Subtitle Test - Timed Text track file - Reel 6

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_05_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.203. 2K Full Subtitle Test - Timed Text track file - Reel 7

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_06_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.204. 2K Full Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.205. 2K Full Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.206. 2K Full Subtitle Test - Timed Text track file - Reel 10

Item Data	Data Description
type:	MXF text
filename:	sub_test_2K_full_09_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.207. 4K Full Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_4K_full_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.208. 4K Full Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_4K_full_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	24/1

A.2.209. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 1

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_00_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.210. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 2

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_01_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.211. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 3

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_02_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.212. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 4

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_03_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.213. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 5

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_04_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.214. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 6

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_05_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.215. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 7

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_06_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.216. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 8

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_07_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.217. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 9

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_08_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.2.218. 2K 48fps Full Subtitle Test - Timed Text track file - Reel 10

Item Data	Data Description
type:	MXF text
filename:	sub_test_48fps_full_09_tt_ct.mxf
description:	Encrypted MXF track file containing timed text test content.
conforms to:	S377-1, S428-7, S429-5, S429-6
prerequisites:	None
malformations:	None
meta: Duration	00:01:00:00
meta: Encryption	AES-128
meta: EditRate	48/1

A.3. Sound

A.3.1. Introduction

This section defines a set of MXF sound track files. For each track file, a description is given which details the sounds encoded in the file. The sound track files will be combined with image files to make complete compositions (see Section A.4).

A.3.2. Sync Count 5.1

Item Data	Data Description
type:	MXF pcm
filename:	sync_count_51_pcm_pt.mxf
description:	MXF track file containing six channels of audio. Channels 1,2,4,5 and 6 are silent. Channel 3 (Center) contains five seconds (120 frames) of silence followed by a ten second countdown and five seconds of silence. The countdown consists of ten identical one-second count segments. Each count segment consists of one frame (2000 samples) encoding of a 1 kHz sine wave at -20 dBFS, followed by 23 frames of silence.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	00:20:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.3. Sync Count 5.1 (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	sync_count_51_pcm_ct.mxf
description:	Encrypted MXF track file, contents are identical to Section A.3.2: Sync Count 5.1.
conforms to:	S377-1, S429-3, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	00:20:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.4. Sync Count 5.1 48fps

Item Data	Data Description
type:	MXF pcm
filename:	sync_count_51_48fps_pcm_pt.mxf
description:	MXF track file containing six channels of audio. Channels 1,2,4,5 and 6 are silent. Channel 3 (Center) contains five seconds (240 frames) of silence followed by a ten second countdown and five seconds of silence. The countdown consists of ten identical one-second count segments. Each count segment consists of two frames (2000 samples) encoding of a 1 kHz sine wave at -20 dBFS, followed by 46 frames of silence.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	00:20:00
meta: SampleRate	48000
meta: EditRate	48/1

A.3.5. Channel I.D. 5.1

Item Data	Data Description
type:	MXF pcm
filename:	channel_id_51_pcm_pt.mxf
description:	MXF track file containing a repeated voice announcement of the channel label of the respective channel: Left (Channel 1), Center (Channel 3), Right (Channel 2), Left Surround (Channel 5), Right Surround (Channel 6), LFE (Channel 4). Voice announcements are sequential, in the order given here.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	00:40:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.6. Channel I.D. 1-16

Item Data	Data Description
type:	MXF pcm
filename:	channel_id_01-16_pcm_pt.mxf
description:	MXF track file containing a sequential voice announcement of the channel number of the respective channel.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	01:24:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.7. Pink Noise, 16 Channels

Item Data	Data Description
type:	MXF pcm
filename:	pink_noise_1-16_pcm_pt.mxf
description:	Pink ($1/f$) noise at -20 dBFS on sixteen channels, band limited to 22 KHz. Identical, sample-aligned signal must be used on all channels.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	00:30:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.8. Pink Noise, 16 Channels, 96 kHz

Item Data	Data Description
type:	MXF pcm
filename:	pink_noise_1-16_96khz_pcm_pt.mxf
description:	Pink ($1/f$) noise at -20 dBFS on sixteen channels, band limited to 44 KHz. Identical, sample-aligned signal must be used on all channels.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	00:30:00
meta: SampleRate	96000
meta: EditRate	24/1

A.3.9. Maximum Bitrate, 16 Channels, 96 kHz (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	max_bitrate_1-16_96khz_pcm_ct.mxf
description:	Encrypted MXF sound track file containing a count to check synchronization between picture and sound, 10 minutes of pink ($1/f$) noise at -20 dBFS on all sixteen channels, band limited to 44 KHz and a second sync count.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Encryption	AES-128
meta: Duration	00:10:40:00
meta: SampleRate	96000
meta: EditRate	24/1

A.3.10. 1 kHz Sine Wave

Item Data	Data Description
type:	MXF pcm
filename:	1_khz_sine_wave_pcm_pt.mxf
description:	MXF track file containing 1 kHz sine wave on sixteen channels at -20 dBFS.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	02:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.11. 1 kHz Sine Wave, 16 Channels 96kHz

Item Data	Data Description
type:	MXF pcm
filename:	1_khz_sine_wave_96khz_pcm_pt.mxf
description:	MXF track file containing 96kHz sample rate 1 kHz sine wave on sixteen channels at -20 dBFS.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	02:00:00
meta: SampleRate	96000
meta: EditRate	24/1

A.3.12. 400 hz sine wave

Item Data	Data Description
type:	MXF pcm
filename:	400_hz_sine_wave_pcm_pt.mxf
description:	MXF track file containing 400 Hz sine wave on six channels at -20 dBfs (dB Full Scale). LFE channel is full-range.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	02:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.13. 400 hz sine wave, WTF

Item Data	Data Description
type:	MXF pcm
filename:	400_hz_sine_wave_wtf_pcm_pt.mxf
description:	MXF track file containing 400 Hz sine wave on sixteen channels at -20 dBfs (dB Full Scale). LFE channel is full-range.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	02:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.14. 400 hz sine wave, WTF (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	400_hz_sine_wave_wtf_pcm_ct.mxf
description:	Encrypted MXF track file containing 400 Hz sine wave on sixteen channels at -20 dBfs (dB Full Scale). LFE channel is full-range.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Encryption	AES-128
meta: Duration	02:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.15. Silence, 5.1

Item Data	Data Description
type:	MXF pcm
filename:	black_51_pcm_pt.mxf
description:	MXF track file containing six channels of silence.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	02:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.16. Silence, 5.1 (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	black_51_pcm_ct.mxf
description:	Encrypted MXF track file containing six channels of silence.
conforms to:	S377-1, S429-3, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	02:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.17. Silence, 5.1, 48 fps (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	black_51_48fps_pcm_ct.mxf
description:	48 Frames per second (fps) MXF track file containing six channels of silence.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	00:02:00:00
meta: SampleRate	48000
meta: EditRate	48/1

A.3.18. Silence, 5.1, 15 minutes

Item Data	Data Description
type:	MXF pcm
filename:	black_long_51_pcm_pt.mxf
description:	MXF track file containing six channels of silence.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	00:15:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.19. Silence, 5.1, 15 minutes (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	black_long_51_pcm_ct.mxf
description:	MXF track file containing six channels of silence.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	00:15:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.20. StEM 5.1 Sound

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_pt.mxf
description:	MXF track file containing 5.1 sound essence for the DCI StEM Mini Movie.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	11:31:21
meta: SampleRate	48000
meta: EditRate	24/1

A.3.21. StEM 5.1 Sound (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_ct.mxf
description:	Encrypted MXF track file containing 5.1 sound essence for the DCI StEM Mini Movie.
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	11:31:21
meta: SampleRate	48000
meta: EditRate	24/1

A.3.22. StEM 5.1 Sound Multi-Reel A (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_multi_A_ct.mxf
description:	A set of encrypted MXF track files containing 5.1 sound essence for the DCI StEM Mini Movie.
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: SegmentCount	128
meta: Encryption	AES-128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.23. StEM 5.1 Sound Multi-Reel B (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_multi_B_ct.mxf
description:	A set of encrypted MXF track files containing 5.1 sound essence for the DCI StEM Mini Movie. Identical to StEM_51_pcm_multi_A_ct
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: SegmentCount	128
meta: Encryption	AES-128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.24. StEM 5.1 Sound Multi-Reel C (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_multi_C_ct.mxf
description:	A set of encrypted MXF track files containing 5.1 sound essence for the DCI StEM Mini Movie. 64 files, each with a duration of 1 second.
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: SegmentCount	64
meta: Encryption	AES-128
meta: SegmentDuration	00:01:00
meta: Duration	00:01:04:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.25. StEM 5.1 Sound Multi-Reel A

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_multi_A_pt.mxf
description:	A set of plaintext MXF track files containing 5.1 sound essence for the DCI StEM Mini Movie. 128 files, each with a duration of 5 seconds.
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: SegmentCount	128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.26. StEM 5.1 Sound Multi-Reel B

Item Data	Data Description
type:	MXF pcm
filename:	StEM_51_pcm_multi_B_pt.mxf
description:	A set of plaintext MXF track files containing 5.1 sound essence for the DCI StEM Mini Movie. Identical to StEM_51_pcm_multi_A_pt
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: SegmentCount	128
meta: SegmentDuration	00:05:00
meta: Duration	00:10:40:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.27. StEM 48fps 5.1 Sound

Item Data	Data Description
type:	MXF pcm
filename:	StEM_48fps_51_pcm_pt.mxf
description:	MXF track file containing 5.1 sound essence for the 48 fps DCI StEM Mini Movie.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	5.1
meta: Duration	00:51:46
meta: SampleRate	48000
meta: EditRate	48/1

A.3.28. FM StEM WTF Sound

Item Data	Data Description
type:	MXF pcm
filename:	fm_StEM_wtf_pcm_pt.mxf
description:	MXF track file for FM testing containing WTF sound essence for the DCI StEM Mini Movie.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Duration	11:31:21
meta: SampleRate	48000
meta: EditRate	24/1

A.3.29. FM StEM WTF Sound (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	fm_StEM_wtf_pcm_ct.mxf
description:	Encrypted MXF track file for FM testing containing WTF sound essence for the DCI StEM Mini Movie.
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Encryption	AES-128
meta: Duration	11:31:21
meta: SampleRate	48000
meta: EditRate	24/1

A.3.30. Binary Audio FM Bypass WTF Sound (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	binary_audio_fm_bypass_wtf_pcm_ct.mxf
description:	Encrypted MXF track file for FM testing containing known binary audio content on 16 channels of WTF format sound essence.
conforms to:	S377-1, S429-3, S429-6, S382, S429-4
prerequisites:	None
malformations:	None
meta: SoundFormat	WTF
meta: Encryption	AES-128
meta: Duration	10:00:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.31. m02 Sound Frame Out Of Order (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	m02_snd_frame_oo_51_pcm_ct.mxf
description:	Malformed, encrypted MXF track file containing six channels of 400Hz sine waves.
conforms to:	S377-1, S429-3, S382, S429-4
prerequisites:	None
malformations:	The KLV packets containing edit units 01 and 02 are swapped.
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.32. m04 Sound Track File With Wrong TrackFile ID (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	m04_sndtk_wrong_file_pcm_ct.mxf
description:	MXF track file in which the integrity pack of the 7th frame has the TrackFile ID replaced with a different value.
conforms to:	S377-1, S422, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: EditRate	24/1

A.3.33. m10 Sound track file with bad HMAC (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	m10_snd_bad_hmac_pcm_ct.mxf
description:	Sound track file in which one of the HMAC values for a single frame has been changed.
conforms to:	S377-1, S429-3, S382
prerequisites:	None
malformations:	The file contains a replacement EKLV packet for the seventh frame (index 6). The replacement packet is taken from another track file having a different PackageUID but encrypted with the same symmetric key.
meta: SoundFormat	5.1
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: SampleRate	48000
meta: EditRate	24/1

A.3.34. m12 Sound Track File With Bad Check Value (Encrypted)

Item Data	Data Description
type:	MXF pcm
filename:	m12_snd_bad_chuk_pcm_ct.mxf
description:	MXF track file containing one EKL V packet encrypted for another file.
conforms to:	S377-1, S422M, S429-3, S429-4
prerequisites:	None
malformations:	None
meta: Encryption	AES-128
meta: Duration	00:00:05:00
meta: EditRate	24/1

A.4. D-Cinema Packages

A.4.1. Introduction

This section defines a set of D-Cinema Compositions and D-Cinema Packages. The Compositions depend upon the track files created in Section A.2 and Section A.3. The Packages contain the Compositions for ingest.

A.4.2. DCI 2K Sync Test

Item Data	Data Description
type:	CPL
filename:	2K_sync_test.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_j2c_pt.mxf, sync_count_51_pcm_pt.mxf
malformations:	None

A.4.3. DCI 2K Sync Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_sync_test_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_j2c_ct.mxf, sync_count_51_pcm_ct.mxf
malformations:	None

A.4.4. DCI 2K Sync test with Subtitles

Item Data	Data Description
type:	CPL
filename:	sync_test_with_subs.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_with_subs_j2c_pt.mxf, sync_count_51_pcm_pt.mxf, sync_count_tt_pt.mxf
malformations:	None

A.4.5. DCI 2K Sync test with Subtitles (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sync_test_with_subs_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_with_subs_j2c_ct.mxf, sync_count_51_pcm_ct.mxf, sync_count_tt_ct.mxf
malformations:	None

A.4.6. DCI 2K Sync Test (48fps)

Item Data	Data Description
type:	CPL
filename:	sync_test_48fps.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_48fps_j2c_pt.mxf, sync_count_51_48fps_pcm_pt.mxf
malformations:	None
meta: EditRate	48/1

A.4.7. 4K Sync Test

Item Data	Data Description
type:	CPL
filename:	4K_sync_test.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	4K_sync_count_j2c_pt.mxf, sync_count_51_pcm_pt.mxf
malformations:	None

A.4.8. DCI 5.1 Channel Identification

Item Data	Data Description
type:	CPL
filename:	channel_id_51_pt.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	channel_id_51_j2c_pt.mxf, channel_id_51_pcm_pt.mxf
malformations:	None

A.4.9. DCI 1-16 Numbered Channel Identification

Item Data	Data Description
type:	CPL
filename:	channel_id_01-16.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	channel_id_01-16_j2c_pt.mxf, channel_id_01-16_pcm_pt.mxf
malformations:	None

A.4.10. DCI NIST Frame with silence

Item Data	Data Description
type:	CPL
filename:	nist_pattern_black_audio.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.11. 4K DCI NIST Frame with silence

Item Data	Data Description
type:	CPL
filename:	4K_nist_pattern.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	4K_nist_test_pattern_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.12. DCI NIST Frame with Pink Noise

Item Data	Data Description
type:	CPL
filename:	nist_pattern_pink_noise.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, pink_noise_1-16_pcm_pt.mxf
malformations:	None

A.4.13. DCI NIST Frame with 1 kHz tone (-20 dB fs)

Item Data	Data Description
type:	CPL
filename:	nist_pattern_1k.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, 1_khz_sine_wave_pcm_pt.mxf
malformations:	None

A.4.14. DCI NIST Frame with Pink Noise (96 kHz)

Item Data	Data Description
type:	CPL
filename:	nist_pattern_pink_noise_96k.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, pink_noise_1-16_96khz_pcm_pt.mxf
malformations:	None

A.4.15. DCI NIST Frame with 1 kHz tone (-20 dB fs, 96kHz)

Item Data	Data Description
type:	CPL
filename:	nist_pattern_1k_96k.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, 1_khz_sine_wave_96khz_pcm_pt.mxf
malformations:	None

A.4.16. DCI NIST Frame no sound files

Item Data	Data Description
type:	CPL
filename:	nist_pattern_no_audio.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf
malformations:	None

A.4.17. DCI 2K Image with Frame Number Burn In

Item Data	Data Description
type:	CPL
filename:	frame_num_burn_in.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	frame_num_burn_in_j2c_pt.mxf, black_long_51_pcm_pt.mxf
malformations:	None

A.4.18. DCI 2K Image with Frame Number Burn In (Encrypted)

Item Data	Data Description
type:	CPL
filename:	frame_num_burn_in_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	frame_num_burn_in_j2c_ct.mxf, black_long_51_pcm_ct.mxf
malformations:	None

A.4.19. DCI 2K Image with Frame Number Burn In (Flat)

Item Data	Data Description
type:	CPL
filename:	frame_count_flat_2_reels.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	transition-flat_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.20. DCI 2K Image with Frame Number Burn In (Scope)

Item Data	Data Description
type:	CPL
filename:	frame_count_scope_2_reels.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	transition-scope_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.21. DCI 2K StEM

Item Data	Data Description
type:	CPL
filename:	2K_StEM_pt.cpl.xml
description:	A plaintext composition consisting of the StEM 2K image and 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_pt.mxf, StEM_51_pcm_pt.mxf
malformations:	None

A.4.22. DCI 2K StEM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_StEM_ct.cpl.xml
description:	An encrypted composition consisting of the encrypted StEM 2K image and encrypted 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	None

A.4.23. DCI 2K StEM Test Sequence

Item Data	Data Description
type:	CPL
filename:	2K_StEM_sequence_pt.cpl.xml
description:	A plaintext composition consisting of six (6) reels. Each reel is composed of the StEM 2K image and 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_pt.mxf, StEM_51_pcm_pt.mxf
malformations:	None

A.4.24. DCI 2K StEM Test Sequence (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_StEM_sequence_ct.cpl.xml
description:	An encrypted composition consisting of six (6) reels. Each reel is composed of the encrypted StEM 2K image and encrypted 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	None

A.4.25. DCI 2K 48fps StEM

Item Data	Data Description
type:	CPL
filename:	2K_StEM_48fps_pt.cpl.xml
description:	A plaintext composition consisting of the StEM 2K 48 fps image and 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_48fps_j2c_pt.mxf, StEM_48fps_51_pcm_pt.mxf
malformations:	None

A.4.26. 128 Reel Composition, "A" Series

Item Data	Data Description
type:	CPL
filename:	2K_StEM_128_a_reels_pt.cpl.xml
description:	A plaintext composition consisting of one hundred and twenty eight (128) reels. Each reel is composed of part of the plaintext StEM 2K image and plaintext 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_multi_A_pt, StEM_51_pcm_multi_A_pt
malformations:	None

A.4.27. 128 Reel Composition, "B" Series

Item Data	Data Description
type:	CPL
filename:	2K_StEM_128_b_reels_pt.cpl.xml
description:	A plaintext composition consisting of one hundred and twenty eight (128) reels. Each reel is composed of part of the plaintext StEM 2K image and plaintext 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_multi_B_pt, StEM_51_pcm_multi_B_pt
malformations:	None

A.4.28. 128 Reel Composition, "A" Series (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_StEM_128_a_reels_ct.cpl.xml
description:	An encrypted composition consisting of one hundred and twenty eight (128) reels. Each reel is composed of part of the encrypted StEM 2K image and encrypted 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_multi_A_ct, StEM_51_pcm_multi_A_ct
malformations:	None

A.4.29. 128 Reel Composition, "B" Series (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_StEM_128_b_reels_ct.cpl.xml
description:	An encrypted composition consisting of one hundred and twenty eight (128) reels. Each reel is composed of part of the encrypted StEM 2K image and encrypted 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_multi_B_ct, StEM_51_pcm_multi_B_ct
malformations:	None

A.4.30. 64 Reel Composition, 1 Second Reels (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_StEM_64_1_second_reels_ct.cpl.xml
description:	An encrypted composition consisting of sixty four (64) reels, each with a duration of 1 second. Each reel is composed of part of the encrypted StEM 2K image and encrypted 5.1 sound track files.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_multi_C_ct, StEM_51_pcm_multi_C_ct
malformations:	None

A.4.31. 2K FM Application Constraints (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_fm_constraints_ct.cpl.xml
description:	A composition consisting of FM testing instructions and both encrypted and plaintext StEM 2K image and 16 channel WTF format sound track files.
conforms to:	S429-7
prerequisites:	fm_constraints_begin_j2c_pt.mxf, fm_constraints_begin_j2c_ct.mxf, fm_constraints_end_j2c_pt.mxf, fm_constraints_end_j2c_ct.mxf, 400_hz_sine_wave_wtf_pcm_ct.mxf, 400_hz_sine_wave_wtf_pcm_pt.mxf, StEM_2K_j2c_ct.mxf, StEM_2K_j2c_pt.mxf, fm_StEM_wtf_pcm_pt.mxf, fm_StEM_wtf_pcm_ct.mxf
malformations:	None

A.4.32. 2K FM Control Granularity - No FM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_fm_control_granularity_no_fm.cpl.xml
description:	An encrypted composition containing the encrypted StEM 2K image and encrypted 16 channel WTF format sound track files.
conforms to:	S429-7
prerequisites:	2K_fm_control_granularity_begin_j2c_ct.mxf, 2K_fm_control_granularity_end_j2c_ct.mxf, 400_hz_sine_wave_wtf_pcm_ct.mxf, StEM_2K_j2c_ct.mxf, fm_StEM_wtf_pcm_ct.mxf
malformations:	None

A.4.33. 2K FM Control Granularity - Image Only FM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_fm_control_granularity_image_only_fm.cpl.xml
description:	An encrypted composition containing the FM encrypted StEM 2K image and encrypted 16 channel WTF format sound track files.
conforms to:	S429-7
prerequisites:	2K_fm_control_granularity_begin_j2c_ct.mxf, 2K_fm_control_granularity_end_j2c_ct.mxf, 400_hz_sine_wave_wtf_pcm_ct.mxf, StEM_2K_j2c_ct.mxf, fm_StEM_wtf_pcm_ct.mxf
malformations:	None

A.4.34. 2K FM Control Granularity - Sound Only FM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_fm_control_granularity_sound_only_fm.cpl.xml
description:	An encrypted composition containing the encrypted StEM 2K image and encrypted 16 channel WTF format sound track files.
conforms to:	S429-7
prerequisites:	2K_fm_control_granularity_begin_j2c_ct.mxf, 2K_fm_control_granularity_end_j2c_ct.mxf, 400_hz_sine_wave_wtf_pcm_ct.mxf, StEM_2K_j2c_ct.mxf, fm_StEM_wtf_pcm_ct.mxf
malformations:	None

A.4.35. 2K FM Control Granularity - Image and Sound FM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_fm_control_granularity_image_and_sound_fm.cpl.xml
description:	An encrypted composition containing of the encrypted StEM 2K image and encrypted 16 channel WTF format sound track files.
conforms to:	S429-7
prerequisites:	2K_fm_control_granularity_begin_j2c_ct.mxf, 2K_fm_control_granularity_end_j2c_ct.mxf, 400_hz_sine_wave_wtf_pcm_ct.mxf, StEM_2K_j2c_ct.mxf, fm_StEM_wtf_pcm_ct.mxf
malformations:	None

A.4.36. 2K FM Payload (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_fm_payload_ct.cpl.xml
description:	An encrypted composition for FM detection containing the encrypted StEM 2K image and encrypted 16 channel WTF format sound track files.
conforms to:	S429-7
prerequisites:	2K_fm_payload_begin_j2c_ct.mxf, 2K_fm_payload_end_j2c_ct.mxf, 400_hz_sine_wave_wtf_pcm_ct.mxf, StEM_2K_j2c_ct.mxf, fm_StEM_wtf_pcm_ct.mxf
malformations:	None

A.4.37. Binary Audio Forensic Marking Bypass Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	binary_audio_fm_ct.cpl.xml
description:	An encrypted composition containing an encrypted 48 kHz sound track file with 16 channels of audio in WTF format.
conforms to:	S429-7
prerequisites:	binary_audio_fm_bypass_j2c_pt, binary_audio_fm_bypass_wtf_pcm_ct
malformations:	None

A.4.38. Selective Audio FM - All FM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	selective_audio_fm_all-fm_ct.cpl.xml
description:	An encrypted composition containing an encrypted sound track file with 16 channels of audio.
conforms to:	S429-7
prerequisites:	selective_fm_begin_j2c_pt, selective_fm_end_j2c_pt, 400_hz_sine_wave_wtf_pcm_ct, StEM_2K_j2c_pt, fm_StEM_wtf_pcm_ct
malformations:	None

A.4.39. Selective Audio FM - No FM (Encrypted)

Item Data	Data Description
type:	CPL
filename:	selective_audio_fm_no-fm_ct.cpl.xml
description:	An encrypted composition containing an encrypted sound track file with 16 channels of audio.
conforms to:	S429-7
prerequisites:	selective_fm_begin_j2c_pt, selective_fm_end_j2c_pt, 400_hz_sine_wave_wtf_pcm_ct, StEM_2K_j2c_pt, fm_StEM_wtf_pcm_ct
malformations:	None

A.4.40. Selective Audio FM - Not Above Channel 6 (Encrypted)

Item Data	Data Description
type:	CPL
filename:	selective_audio_fm_6ch_ct.cpl.xml
description:	An encrypted composition containing an encrypted sound track file with 16 channels of audio.
conforms to:	S429-7
prerequisites:	selective_fm_begin_j2c_pt, selective_fm_end_j2c_pt, 400_hz_sine_wave_wtf_pcm_ct, StEM_2K_j2c_pt, fm_StEM_wtf_pcm_ct
malformations:	None

A.4.41. Selective Audio FM - Not Above Channel 8 (Encrypted)

Item Data	Data Description
type:	CPL
filename:	selective_audio_fm_8ch_ct.cpl.xml
description:	An encrypted composition containing an encrypted sound track file with 16 channels of audio.
conforms to:	S429-7
prerequisites:	selective_fm_begin_j2c_pt, selective_fm_end_j2c_pt, 400_hz_sine_wave_wtf_pcm_ct, StEM_2K_j2c_pt, fm_StEM_wtf_pcm_ct
malformations:	None

A.4.42. Selective Audio FM - Not Above Channel 10 (Encrypted)

Item Data	Data Description
type:	CPL
filename:	selective_audio_fm_10ch_ct.cpl.xml
description:	An encrypted composition containing an encrypted sound track file with 16 channels of audio.
conforms to:	S429-7
prerequisites:	selective_fm_begin_j2c_pt, selective_fm_end_j2c_pt, 400_hz_sine_wave_wtf_pcm_ct, StEM_2K_j2c_pt, fm_StEM_wtf_pcm_ct
malformations:	None

A.4.43. Selective Audio FM - Not Above Channel 17 (Encrypted)

Item Data	Data Description
type:	CPL
filename:	selective_audio_fm_17ch_ct.cpl.xml
description:	An encrypted composition containing an encrypted sound track file with 16 channels of audio.
conforms to:	S429-7
prerequisites:	selective_fm_begin_j2c_pt, selective_fm_end_j2c_pt, 400_hz_sine_wave_wtf_pcm_ct, StEM_2K_j2c_pt, fm_StEM_wtf_pcm_ct
malformations:	None

A.4.44. 2K DCI Maximum Bitrate Composition (Encrypted)

Item Data	Data Description
type:	CPL
filename:	2K_max_bitrate_ct.cpl.xml
description:	Encrypted composition containing picture and sound track files of the maximum allowable bitrate.
conforms to:	S429-7
prerequisites:	2K_max_bitrate_j2c_ct.mxf, max_bitrate_1-16_96khz_pcm_ct.mxf
malformations:	None

A.4.45. 4K DCI Maximum Bitrate Composition (Encrypted)

Item Data	Data Description
type:	CPL
filename:	4K_max_bitrate_ct.cpl.xml
description:	Encrypted composition containing picture and sound track files of the maximum allowable bitrate.
conforms to:	S429-7
prerequisites:	4K_max_bitrate_j2c_ct.mxf, max_bitrate_1-16_96khz_pcm_ct.mxf
malformations:	None

A.4.46. End of Engagement - Past Time Window Extension (Encrypted)

Item Data	Data Description
type:	CPL
filename:	holdover_long_ct.cpl.xml
description:	An encrypted composition with duration of 6 hours and 11 minutes.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	None

A.4.47. End of Engagement - Within Time Window Extension (Encrypted)

Item Data	Data Description
type:	CPL
filename:	holdover_short_ct.cpl.xml
description:	An encrypted composition with duration of 5 hours and 59 minutes and 30 seconds.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	None

A.4.48. 2K Scope Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_2K_scope_ct.cpl.xml
description:	2K Scope Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_pcm_ct.mxf, sub_test_2K_scope_00_tt_ct.mxf, sub_test_2K_scope_01_tt_ct.mxf, sub_test_2K_scope_02_tt_ct.mxf, sub_test_2K_scope_03_tt_ct.mxf, sub_test_2K_scope_04_tt_ct.mxf, sub_test_2K_scope_05_tt_ct.mxf, sub_test_2K_scope_06_tt_ct.mxf, sub_test_2K_scope_07_tt_ct.mxf, sub_test_2K_scope_08_tt_ct.mxf, sub_test_2K_scope_09_tt_ct.mxf sub_test_2K_scope_00_j2c_ct.mxf, sub_test_2K_scope_01_j2c_ct.mxf, sub_test_2K_scope_02_j2c_ct.mxf, sub_test_2K_scope_03_j2c_ct.mxf, sub_test_2K_scope_04_j2c_ct.mxf, sub_test_2K_scope_05_j2c_ct.mxf, sub_test_2K_scope_06_j2c_ct.mxf, sub_test_2K_scope_07_j2c_ct.mxf, sub_test_2K_scope_08_j2c_ct.mxf, sub_test_2K_scope_09_j2c_ct.mxf
malformations:	None

A.4.49. 2K Flat Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_2K_flat_ct.cpl.xml
description:	2K Flat Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_pcm_ct.mxf, sub_test_2K_flat_00_tt_ct.mxf, sub_test_2K_flat_01_tt_ct.mxf, sub_test_2K_flat_02_tt_ct.mxf, sub_test_2K_flat_03_tt_ct.mxf, sub_test_2K_flat_04_tt_ct.mxf, sub_test_2K_flat_05_tt_ct.mxf, sub_test_2K_flat_06_tt_ct.mxf, sub_test_2K_flat_07_tt_ct.mxf, sub_test_2K_flat_08_tt_ct.mxf, sub_test_2K_flat_09_tt_ct.mxf sub_test_2K_flat_00_j2c_ct.mxf, sub_test_2K_flat_01_j2c_ct.mxf, sub_test_2K_flat_02_j2c_ct.mxf, sub_test_2K_flat_03_j2c_ct.mxf, sub_test_2K_flat_04_j2c_ct.mxf, sub_test_2K_flat_05_j2c_ct.mxf, sub_test_2K_flat_06_j2c_ct.mxf, sub_test_2K_flat_07_j2c_ct.mxf, sub_test_2K_flat_08_j2c_ct.mxf, sub_test_2K_flat_09_j2c_ct.mxf
malformations:	None

A.4.50. 2K Full Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_2K_full_ct.cpl.xml
description:	2K Full Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_pcm_ct.mxf, sub_test_2K_full_00_tt_ct.mxf, sub_test_2K_full_01_tt_ct.mxf, sub_test_2K_full_02_tt_ct.mxf, sub_test_2K_full_03_tt_ct.mxf, sub_test_2K_full_04_tt_ct.mxf, sub_test_2K_full_05_tt_ct.mxf, sub_test_2K_full_06_tt_ct.mxf, sub_test_2K_full_07_tt_ct.mxf, sub_test_2K_full_08_tt_ct.mxf, sub_test_2K_full_09_tt_ct.mxf, sub_test_2K_full_00_j2c_ct.mxf, sub_test_2K_full_01_j2c_ct.mxf, sub_test_2K_full_02_j2c_ct.mxf, sub_test_2K_full_03_j2c_ct.mxf, sub_test_2K_full_04_j2c_ct.mxf, sub_test_2K_full_05_j2c_ct.mxf, sub_test_2K_full_06_j2c_ct.mxf, sub_test_2K_full_07_j2c_ct.mxf, sub_test_2K_full_08_j2c_ct.mxf, sub_test_2K_full_09_j2c_ct.mxf,
malformations:	None

A.4.51. 4K Scope Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_4K_scope_ct.cpl.xml
description:	4K Scope Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_pcm_ct.mxf, sub_test_2K_scope_00_tt_ct.mxf, sub_test_2K_scope_01_tt_ct.mxf, sub_test_2K_scope_02_tt_ct.mxf, sub_test_2K_scope_03_tt_ct.mxf, sub_test_2K_scope_04_tt_ct.mxf, sub_test_2K_scope_05_tt_ct.mxf, sub_test_2K_scope_06_tt_ct.mxf, sub_test_2K_scope_07_tt_ct.mxf, sub_test_4K_scope_07_tt_ct.mxf, sub_test_4K_scope_08_tt_ct.mxf, sub_test_2K_scope_09_tt_ct.mxf, sub_test_4K_scope_00_j2c_ct.mxf, sub_test_4K_scope_01_j2c_ct.mxf, sub_test_4K_scope_02_j2c_ct.mxf, sub_test_4K_scope_03_j2c_ct.mxf, sub_test_4K_scope_04_j2c_ct.mxf, sub_test_4K_scope_05_j2c_ct.mxf, sub_test_4K_scope_06_j2c_ct.mxf, sub_test_4K_scope_07_j2c_ct.mxf, sub_test_4K_scope_08_j2c_ct.mxf, sub_test_4K_scope_09_j2c_ct.mxf,
malformations:	None

A.4.52. 4K Flat Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_4K_flat_ct.cpl.xml
description:	4K Flat Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_pcm_ct.mxf, sub_test_4K_flat_00_j2c_ct.mxf, sub_test_2K_flat_00_tt_ct.mxf, sub_test_4K_flat_01_j2c_ct.mxf, sub_test_2K_flat_01_tt_ct.mxf, sub_test_4K_flat_02_j2c_ct.mxf, sub_test_2K_flat_02_tt_ct.mxf, sub_test_4K_flat_03_j2c_ct.mxf, sub_test_2K_flat_03_tt_ct.mxf, sub_test_4K_flat_04_j2c_ct.mxf, sub_test_2K_flat_04_tt_ct.mxf, sub_test_4K_flat_05_j2c_ct.mxf, sub_test_2K_flat_05_tt_ct.mxf, sub_test_4K_flat_06_j2c_ct.mxf, sub_test_2K_flat_06_tt_ct.mxf, sub_test_4K_flat_07_j2c_ct.mxf, sub_test_4K_flat_07_tt_ct.mxf, sub_test_4K_flat_08_j2c_ct.mxf, sub_test_4K_flat_08_tt_ct.mxf, sub_test_4K_flat_09_j2c_ct.mxf, sub_test_2K_flat_09_tt_ct.mxf
malformations:	None

A.4.53. 4K Full Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_4K_full_ct.cpl.xml
description:	4K Full Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_pcm_ct.mxf, sub_test_4K_full_00_j2c_ct.mxf, sub_test_2K_full_00_tt_ct.mxf, sub_test_4K_full_01_j2c_ct.mxf, sub_test_2K_full_01_tt_ct.mxf, sub_test_4K_full_02_j2c_ct.mxf, sub_test_2K_full_02_tt_ct.mxf, sub_test_4K_full_03_j2c_ct.mxf, sub_test_2K_full_03_tt_ct.mxf, sub_test_4K_full_04_j2c_ct.mxf, sub_test_2K_full_04_tt_ct.mxf, sub_test_4K_full_05_j2c_ct.mxf, sub_test_2K_full_05_tt_ct.mxf, sub_test_4K_full_06_j2c_ct.mxf, sub_test_2K_full_06_tt_ct.mxf, sub_test_4K_full_07_j2c_ct.mxf, sub_test_4K_full_07_tt_ct.mxf, sub_test_4K_full_08_j2c_ct.mxf, sub_test_4K_full_08_tt_ct.mxf, sub_test_4K_full_09_j2c_ct.mxf, sub_test_2K_full_09_tt_ct.mxf
malformations:	None

A.4.54. 2K 48fps Scope Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_48fps_scope_ct.cpl.xml
description:	2K 48fps Scope Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> black_51_48fps_pcm_ct.mxf, sub_test_48fps_scope_00_tt_ct.mxf, sub_test_48fps_scope_01_tt_ct.mxf, sub_test_48fps_scope_02_tt_ct.mxf, sub_test_48fps_scope_03_tt_ct.mxf, sub_test_48fps_scope_04_tt_ct.mxf, sub_test_48fps_scope_05_tt_ct.mxf, sub_test_48fps_scope_06_tt_ct.mxf, sub_test_48fps_scope_07_tt_ct.mxf, sub_test_48fps_scope_08_tt_ct.mxf, sub_test_48fps_scope_09_tt_ct.mxf </div> <div style="width: 45%;"> sub_test_48fps_scope_00_j2c_ct.mxf, sub_test_48fps_scope_01_j2c_ct.mxf, sub_test_48fps_scope_02_j2c_ct.mxf, sub_test_48fps_scope_03_j2c_ct.mxf, sub_test_48fps_scope_04_j2c_ct.mxf, sub_test_48fps_scope_05_j2c_ct.mxf, sub_test_48fps_scope_06_j2c_ct.mxf, sub_test_48fps_scope_07_j2c_ct.mxf, sub_test_48fps_scope_08_j2c_ct.mxf, sub_test_48fps_scope_09_j2c_ct.mxf </div> </div>
malformations:	None

A.4.55. 2K 48fps Flat Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_48fps_flat_ct.cpl.xml
description:	2K 48fps Flat Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> black_51_48fps_pcm_ct.mxf, sub_test_48fps_flat_00_tt_ct.mxf, sub_test_48fps_flat_01_tt_ct.mxf, sub_test_48fps_flat_02_tt_ct.mxf, sub_test_48fps_flat_03_tt_ct.mxf, sub_test_48fps_flat_04_tt_ct.mxf, sub_test_48fps_flat_05_tt_ct.mxf, sub_test_48fps_flat_06_tt_ct.mxf, sub_test_48fps_flat_07_tt_ct.mxf, sub_test_48fps_flat_08_tt_ct.mxf, sub_test_48fps_flat_09_tt_ct.mxf </div> <div style="width: 45%;"> sub_test_48fps_flat_00_j2c_ct.mxf, sub_test_48fps_flat_01_j2c_ct.mxf, sub_test_48fps_flat_02_j2c_ct.mxf, sub_test_48fps_flat_03_j2c_ct.mxf, sub_test_48fps_flat_04_j2c_ct.mxf, sub_test_48fps_flat_05_j2c_ct.mxf, sub_test_48fps_flat_06_j2c_ct.mxf, sub_test_48fps_flat_07_j2c_ct.mxf, sub_test_48fps_flat_08_j2c_ct.mxf, sub_test_48fps_flat_09_j2c_ct.mxf </div> </div>
malformations:	None

A.4.56. 2K 48fps Full Subtitle Test (Encrypted)

Item Data	Data Description
type:	CPL
filename:	sub_test_48fps_full_ct.cpl.xml
description:	2K 48fps Full Subtitle Test (Encrypted)
conforms to:	S429-7, S429-2
prerequisites:	black_51_48fps_pcm_ct.mxf, sub_test_48fps_full_00_tt_ct.mxf, sub_test_48fps_full_01_tt_ct.mxf, sub_test_48fps_full_02_tt_ct.mxf, sub_test_48fps_full_03_tt_ct.mxf, sub_test_48fps_full_04_tt_ct.mxf, sub_test_48fps_full_05_tt_ct.mxf, sub_test_48fps_full_06_tt_ct.mxf, sub_test_48fps_full_07_tt_ct.mxf, sub_test_48fps_full_08_tt_ct.mxf, sub_test_48fps_full_09_tt_ct.mxf, sub_test_48fps_full_00_j2c_ct.mxf, sub_test_48fps_full_01_j2c_ct.mxf, sub_test_48fps_full_02_j2c_ct.mxf, sub_test_48fps_full_03_j2c_ct.mxf, sub_test_48fps_full_04_j2c_ct.mxf, sub_test_48fps_full_05_j2c_ct.mxf, sub_test_48fps_full_06_j2c_ct.mxf, sub_test_48fps_full_07_j2c_ct.mxf, sub_test_48fps_full_08_j2c_ct.mxf, sub_test_48fps_full_09_j2c_ct.mxf
malformations:	None

A.4.57. DCI Black Spacer - 5 seconds

Item Data	Data Description
type:	CPL
filename:	black_spacer_5s.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	black_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.58. White Frame Sequence

Item Data	Data Description
type:	CPL
filename:	white_pt.cpl.xml
description:	
conforms to:	S429-7, S431-1
prerequisites:	white_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.59. Intra-Frame Contrast Sequence

Item Data	Data Description
type:	CPL
filename:	checkerboard_pt.cpl.xml
description:	
conforms to:	S429-7, RP431-2
prerequisites:	2K_checkerboard_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.60. Sequential Contrast and Uniformity Sequence

Item Data	Data Description
type:	CPL
filename:	sequential_contrast_pt.cpl.xml
description:	
conforms to:	S429-7, RP431-2
prerequisites:	2K_sequential_contrast_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.61. DCI Gray Steps

Item Data	Data Description
type:	CPL
filename:	gray_step.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	gray_step_j2c_pt.mxf, black_long_51_pcm_pt.mxf
malformations:	None

A.4.62. DCI White Steps

Item Data	Data Description
type:	CPL
filename:	white_step.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	white_step_j2c_pt.mxf, black_long_51_pcm_pt.mxf
malformations:	None

A.4.63. DCI 2K Moving Gradient

Item Data	Data Description
type:	CPL
filename:	moving-gradient-white.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	DCI_gradient_step_s_white_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.64. Color Accuracy Series

Item Data	Data Description
type:	CPL
filename:	color_accuracy_pt.cpl.xml
description:	Composition containing five seconds (120 frames) of a chart showing all color values for the test in Section 7.5.12: Color Accuracy. This is followed by 1 minute of each of the 12 color values as a full frame.
conforms to:	S429-7
prerequisites:	color_accuracy_j2c_pt.mxf, black_long_51_pcm_pt.mxf
malformations:	None

A.4.65. 4K Color Accuracy Series

Item Data	Data Description
type:	CPL
filename:	4K_color_accuracy_pt.cpl.xml
description:	4K composition containing contents identical to Section A.4.64: Color Accuracy Series
conforms to:	S429-7
prerequisites:	4K_color_accuracy_j2c_pt.mxf, black_long_51_pcm_pt.mxf
malformations:	None

A.4.66. Pixel Structure Pattern N 2k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_N_2k_pt.cpl.xml
description:	North-oriented pixel structure test pattern featuring 16 x 16 and 8 x 8 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_N_2k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.67. Pixel Structure Pattern S 2k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_S_2k_pt.cpl.xml
description:	South-oriented pixel structure test pattern featuring 16 x 16 and 8 x 8 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_S_2k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.68. Pixel Structure Pattern E 2k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_E_2k_pt.cpl.xml
description:	East-oriented pixel structure test pattern featuring 16 x 16 and 8 x 8 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_E_2k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.69. Pixel Structure Pattern W 2k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_W_2k_pt.cpl.xml
description:	West-oriented pixel structure test pattern featuring 16 x 16 and 8 x 8 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_W_2k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.70. Pixel Structure Pattern N 4k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_N_4k_pt.cpl.xml
description:	North-oriented pixel structure test pattern featuring 16 x 16 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_N_4k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.71. Pixel Structure Pattern S 4k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_S_4k_pt.cpl.xml
description:	South-oriented pixel structure test pattern featuring 16 x 16 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_S_4k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.72. Pixel Structure Pattern E 4k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_E_4k_pt.cpl.xml
description:	East-oriented pixel structure test pattern featuring 16 x 16 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_E_4k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.73. Pixel Structure Pattern W 4k

Item Data	Data Description
type:	CPL
filename:	pixel_structure_W_4k_pt.cpl.xml
description:	West-oriented pixel structure test pattern featuring 16 x 16 pixel patterns with binary position indicators. See Section 7.5.3: Projector Pixel Count/Structure for description.
conforms to:	S429-7, S431-1
prerequisites:	pixel_structure_W_4k_j2c_pt.mxf, black_51_pcm_pt.mxf
malformations:	None

A.4.74. DCI Malformed Test 1: Picture with Frame-out-of-order error (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m01_pict_frame_oo_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	m01_pict_frame_oo_j2c_ct.mxf, 400_hz_sine_wave_pcm_pt.mxf
malformations:	None

A.4.75. DCI Malformed Test 2: Sound with Frame-out-of-order error (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m02_snd_frame_oo_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, m02_snd_frame_oo_51_pcm_ct.mxf
malformations:	None

A.4.76. DCI Malformed Test 3: Sound Splice Tests

Item Data	Data Description
type:	CPL
filename:	m03_snd_splc_test.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	m03_snd_splc_j2c_pt.mxf, 400_hz_sine_wave_pcm_pt.mxf
malformations:	None

A.4.77. DCI Malformed Test 4: DCP With an incorrect audio TrackFile ID (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m04_sndtk_wrong_file_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, m04_sndtk_wrong_file_pcm_ct.mxf
malformations:	None

A.4.78. DCI Malformed Test 5: DCP With an incorrect image TrackFile ID (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m05_pict_wrong_file_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	m05_pict_wrong_file_j2c_ct.mxf, 400_hz_sine_wave_pcm_pt.mxf
malformations:	None

A.4.79. DCI Malformed Test 6: CPL with incorrect track file hashes (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m06_cpl_hash_error_ct.cpl.xml
description:	The contents of Asset Hash elements are replaced with random values.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	None
meta: Signature	no

A.4.80. DCI Malformed Test 7: CPL with an Invalid Signature (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m07_cpl_invalid_signature_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	The contents of dsig:DigestValue are replaced with a random value.

A.4.81. DCI Malformed Test 8: DCP with timed text and a missing font

Item Data	Data Description
type:	CPL
filename:	m08_dcp_timetext_missing_font_pt.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	subtitle_background_j2c_pt.mxf, black_51_pcm_pt.mxf, std_ctp_text_no_font_pt.mxf
malformations:	None

A.4.82. DCI Malformed Test 9: Picture with HMAC error in MXF Track File (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m09_pict_bad_hmac_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	m09_pict_bad_hmac_j2c_ct.mxf, 400_hz_sine_wave_pcm_pt.mxf
malformations:	None

A.4.83. DCI Malformed Test 10: Sound with HMAC error in MXF Track File (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m10_snd_bad_hmac_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, m10_snd_bad_hmac_pcm_ct.mxf
malformations:	None

A.4.84. DCI Malformed Test 11: Picture with Check Value error in MXF Track File (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m11_pict_bad_chuk_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	m11_pict_bad_chuk_j2c_ct.mxf, 400_hz_sine_wave_pcm_pt.mxf
malformations:	None

A.4.85. DCI Malformed Test 12: Sound with Check Value error in MXF Track File (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m12_snd_bad_chuk_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	nist_2k_test_pattern_j2c_pt.mxf, m12_snd_bad_chuk_pcm_ct.mxf
malformations:	None

A.4.86. DCI Malformed Test 13: CPL that references a non-existent track file (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m13_cpl_missing_asset_ct.cpl.xml
description:	The MainSound asset of this composition is an reference to a non-existent track file.
conforms to:	S429-7
prerequisites:	sync_count_j2c_ct.mxf
malformations:	The Id element of the MainSound shall be a random value.
meta: Signature	no

A.4.87. DCI Malformed Test 14: CPL that does not conform to ST 429-7 (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m14_cpl_format_error_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_j2c_ct.mxf, sync_count_51_pcm_ct.mxf
malformations:	Create valid CPL using an ad-hoc namespace name.
meta: Signature	no

A.4.88. DCI Malformed Test 15: CPL signed by a certificate not conforming to ST 430-2 (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m15_cpl_signer_format_error_ct.cpl.xml
description:	
conforms to:	S429-7
prerequisites:	sync_count_j2c_ct.mxf, sync_count_51_pcm_ct.mxf
malformations:	Create valid CPL signature using a SHA-1 certificate chain.
meta: Signature	no

A.4.89. DCI Malformed Test 16: CPL signed with No Role Certificate (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m16_cpl_malf_signer_no_role_ct.cpl.xml
description:	A composition consisting of the encrypted StEM 2K image and encrypted 5.1 sound track files, signed with a certificate that has no role.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	The signer certificate of the CPL has no role instead of CS.
meta: Register	no
meta: Signature	no

A.4.90. DCI Malformed Test 17: CPL signed with Bad Role Certificate (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m17_cpl_malf_signer_bad_role_ct.cpl.xml
description:	An encrypted composition consisting of the encrypted StEM 2K image and encrypted 5.1 sound track files, signed with a certificate with an incorrect role.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	The signer certificate of the CPL has the role of SM instead of CS.
meta: Register	no
meta: Signature	no

A.4.91. DCI Malformed Test 18: CPL signed with Extra Role Certificate (Encrypted)

Item Data	Data Description
type:	CPL
filename:	m18_cpl_malf_signer_extra_role_ct.cpl.xml
description:	An encrypted composition consisting of the encrypted StEM 2K image and encrypted 5.1 sound track files, signed with a certificate with an extra role.
conforms to:	S429-7
prerequisites:	StEM_2K_j2c_ct.mxf, StEM_51_pcm_ct.mxf
malformations:	The signer certificate of the CPL has the roles of CS and SM instead of only CS.
meta: Register	no
meta: Signature	no

A.4.92. DCI DCP 2K (Encrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_tests
description:	DCP containing well-formed test compositions
conforms to:	S429-8, S429-9
prerequisites:	2K_StEM_ct, 2K_StEM_pt, 2K_StEM_sequence_ct, 2K_StEM_sequence_pt, 2K_StEM_48fps_pt, 2K_fm_constraints_ct, 2K_fm_control_granularity_image_only_fm, 2K_fm_control_granularity_sound_only_fm, 2K_fm_control_granularity_no_fm, 2K_fm_control_granularity_image_and_sound_fm, 2K_fm_payload_ct, binary_audio_fm_ct.cpl.xml, selective_audio_fm_10ch_ct, selective_audio_fm_17ch_ct, selective_audio_fm_6ch_ct, selective_audio_fm_8ch_ct, selective_audio_fm_all_fm_ct, selective_audio_fm_no_fm_ct, 2K_max_bitrate_ct, 2K_sync_test, 2K_sync_test_ct, black_spacer_5s, channel_id_01-16, channel_id_51_pt, checkerboard_pt, sequential_contrast_pt, color_accuracy_pt, frame_count_flat_2_reels, frame_count_scope_2_reels, frame_num_burn_in_ct, gray_step, moving-gradient-white, nist_pattern_1k, nist_pattern_1k_96k, nist_pattern_black_audio, nist_pattern_no_audio, nist_pattern_pink_noise, nist_pattern_pink_noise_96k, pixel_structure_E_2k_pt, pixel_structure_N_2k_pt, pixel_structure_S_2k_pt, pixel_structure_W_2k_pt, sync_test_48fps, white_pt, white_step, sync_test_with_subs, sync_test_with_subs_ct, sub_test_2K_scope_ct, sub_test_2K_flat_ct, sub_test_2K_full_ct, sub_test_48fps_scope_ct, sub_test_48fps_flat_ct, sub_test_48fps_full_ct, holdover_long_ct, holdover_short_ct, frame_num_burn_in
malformations:	None

A.4.93. DCI DCP 2K Multi-Reel 128 A (Encrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_128_multi_a_tests
description:	DCP containing 128 reel StEM, 5 seconds per reel, set A
conforms to:	S429-8, S429-9
prerequisites:	2K_StEM_128_a_reels_ct
malformations:	None

A.4.94. DCI DCP 2K Multi-Reel 128 B (Encrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_128_multi_b_tests
description:	DCP containing 128 reel StEM, 5 seconds per reel, set B
conforms to:	S429-8, S429-9
prerequisites:	2K_StEM_128_b_reels_ct
malformations:	None

A.4.95. DCI DCP 2K Multi-Reel 128 A (Unencrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_128_multi_a_tests_pt
description:	DCP containing 128 reel StEM, 5 seconds per reel, set A, Unencrypted
conforms to:	S429-8, S429-9
prerequisites:	2K_StEM_128_a_reels_pt
malformations:	None

A.4.96. DCI DCP 2K Multi-Reel 128 B (Unencrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_128_multi_b_tests_pt
description:	DCP containing 128 reel StEM, 5 seconds per reel, set B, Unencrypted
conforms to:	S429-8, S429-9
prerequisites:	2K_StEM_128_b_reels_pt
malformations:	None

A.4.97. DCI DCP 2K Multi-Reel 64 (Encrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_64_multi_tests
description:	DCP containing 64 reel StEM, 1 second per reel
conforms to:	S429-8, S429-9
prerequisites:	2K_StEM_64_1_second_reels_ct
malformations:	None

A.4.98. DCI DCP 2K, Malformed (Encrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_2K_malf
description:	DCP containing malformed test compositions
conforms to:	S429-8, S429-9
prerequisites:	m01_pict_frame_oo_ct, m02_snd_frame_oo_ct, m03_snd_splc_test, m04_sndtk_wrong_file_ct, m05_pict_wrong_file_ct, m06_cpl_hash_error_ct, m07_cpl_invalid_signature_ct, m08_dcp_timetext_missing_font_pt, m09_pict_bad_hmac_ct, m10_snd_bad_hmac_ct, m11_pict_bad_chuk_ct, m12_snd_bad_chuk_ct, m13_cpl_missing_asset_ct, m14_cpl_format_error_ct, m15_cpl_signer_format_error_ct, m16_cpl_malf_signer_no_role_ct, m17_cpl_malf_signer_bad_role_ct, m18_cpl_malf_signer_extra_role_ct
malformations:	None
meta: ExplicitPKLContents	yes

A.4.99. DCI DCP 4K (Encrypted)

Item Data	Data Description
type:	DCP
filename:	DCI_4K_tests
description:	DCP containing well-formed 4K test compositions
conforms to:	S429-8, S429-9
prerequisites:	4K_color_accuracy_pt, 4K_max_bitrate_ct, 4K_nist_pattern, 4K_sync_test, pixel_structure_E_4k_pt, pixel_structure_N_4k_pt, pixel_structure_S_4k_pt, pixel_structure_W_4k_pt, sub_test_4K_scope_ct, sub_test_4K_flat_ct, sub_test_4K_full_ct
malformations:	None

A.5. Digital Certificates

Six certificate chains are defined, which separate certificates by device type and level of conformity. In the descriptions below, the IMB label refers to a certificate which contains roles for a Media Block (MB) or a certificate which signs such certificates. Similarly, PRJ refers to certificates or signers associated with a projector and KDS refers to certificates associated with a Key Distribution System (a KDM authoring entity).

- Chain A1 contains valid IMB certificates.
- Chain A2 contains valid IMB certificates but the chain has no intermediate signers.
- Chain A3 contains invalid IMB certificates.
- Chain B1 contains valid PRJ certificates.
- Chain C1 contains valid KDS certificates.
- Chain C3 contains invalid KDS certificates.

A.5.1. Chain A1 IMB Certificate Files

Contents removed, not used by any procedure

A.5.2. Chain A2 IMB Certificate Files

Contents removed, not used by any procedure

A.5.3. Chain A3 IMB Certificate Files

A.5.3.1. chain-a3-root

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-root.pem
description:	Root cert, malformed leaves
conforms to:	S430-2
prerequisites:	IMB-chain-a3-root-key
malformations:	None

A.5.3.2. chain-a3-signer1

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-signer1.pem
description:	Intermediate Signer, level one
conforms to:	S430-2
prerequisites:	IMB-chain-a3-root, IMB-chain-a3-signer1-key
malformations:	None

A.5.3.3. chain-a3-osig-type

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-osig-type.pem
description:	Signature algorithm of outside signature not sha256WithRSAEncryption
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Signature algorithm of outside signature is sha1WithRSAEncryption

A.5.3.4. chain-a3-isig-type

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-isig-type.pem
description:	Signature algorithm inside signature not sha256WithRSAEncryption
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Signature algorithm inside the signature is sha1WithRSAEncryption

A.5.3.5. chain-a3-iosig-type

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-iosig-type.pem
description:	Signature algorithm inside and outside identical, but not sha256WithRSAEncryption
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Signature algorithm is sha1WithRSAEncryption

A.5.3.6. chain-a3-no-rsa

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-rsa.pem
description:	Public Key not an RSA Key
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-no-rsa-key
malformations:	Public Key is a DSA key.

A.5.3.7. chain-a3-short-rsa

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-short-rsa.pem
description:	Public Key Length 1024 bit
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-short-rsa-key
malformations:	Public key is 1024 bits.

A.5.3.8. chain-a3-bad-exp

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-bad-exp.pem
description:	Public Key Exponent other than the required 65537
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-bad-exp-key
malformations:	Public Key Exponent is 3.

A.5.3.9. IMB-chain-a3-BER-enc

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-BER-enc.pem
description:	Encoded as BER (not DER)
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Certificate uses BER encoding.

A.5.3.10. chain-a3-no-saf

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-saf.pem
description:	Missing SignatureAlgorithm field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	SignatureAlgorithm field is not present

A.5.3.11. chain-a3-no-svf

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-svf.pem
description:	Missing SignatureValue field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing SignatureValue field

A.5.3.12. chain-a3-no-ver

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-ver.pem
description:	Missing Version field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing Version field

A.5.3.13. chain-a3-no-sn

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-sn.pem
description:	Missing SerialNumber field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing SerialNumber field

A.5.3.14. chain-a3-no-sig

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-sig.pem
description:	Missing Signature field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing Signature field

A.5.3.15. chain-a3-no-issuer

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-issuer.pem
description:	Missing Issuer field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	The Issuer field is not present.

A.5.3.16. chain-a3-no-subject

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-subject.pem
description:	Missing Subject field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing Subject field

A.5.3.17. chain-a3-no-spki

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-spki.pem
description:	Missing SubjectPublicKeyInfo field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing SubjectPublicKeyInfo field

A.5.3.18. chain-a3-no-val-f

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-val-f.pem
description:	Missing Validity field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Missing Validity field

A.5.3.19. chain-a3-no-aki-f

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-aki-f.pem
description:	Missing AuthorityKeyIdentifier field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	The AuthorityKeyIdentifier is not present.

A.5.3.20. chain-a3-no-keyuse

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-keyuse.pem
description:	Missing KeyUsage field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	The Key Usage field is not present.

A.5.3.21. chain-a3-no-basic

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-no-basic.pem
description:	Missing BasicConstraint field
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	The Basic Constraints field is not present.

A.5.3.22. chain-a3-path-1

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-1.pem
description:	Cert.Auth. true, PathLenpresent and zero
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	None

A.5.3.23. chain-a3-path-2

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-2.pem
description:	Cert.Auth. true, PathLen present and positive
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	None

A.5.3.24. chain-a3-path-3

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-3.pem
description:	Cert.Auth. true, PathLen present and negative
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	PathLen is -1.

A.5.3.25. chain-a3-path-4

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-4.pem
description:	Cert.Auth. false, PathLen absent
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	None

A.5.3.26. chain-a3-path-5

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-5.pem
description:	Cert.Auth. false, PathLen zero
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	None

A.5.3.27. chain-a3-path-6

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-6.pem
description:	Cert.Auth. false, PathLen positive
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	None

A.5.3.28. chain-a3-path-7

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-path-7.pem
description:	Cert.Auth. false, PathLen negative
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	None

A.5.3.29. chain-a3-org-name

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-org-name.pem
description:	OrganizationName in subject and issuer fields does not match
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	OrganizationName in subject field has first two letters transposed.

A.5.3.30. chain-a3-role-1

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-role-1.pem
description:	Cert.Auth. False, no role specified in CommonName
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Common Name begins with a period (".")

A.5.3.31. chain-a3-role-2

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-role-2.pem
description:	Non-SMS role in CN
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Common Name does not include SMS in the section to the left of the first period (".").

A.5.3.32. chain-a3-date-exp

Item Data	Data Description
type:	IMB Certificate
filename:	IMB-chain-a3-date-exp.pem
description:	Expired
conforms to:	S430-2
prerequisites:	IMB-chain-a3-signer1, IMB-chain-a3-leaf-key
malformations:	Certificate Not After field contains a date value in the past.

A.5.4. Chain B1 Certificate Files**A.5.4.1. chain-b1-root**

Item Data	Data Description
type:	PRJ Certificate
filename:	PRJ-chain-b1-root.pem
description:	Self-signed root certificate for PRJ devices
conforms to:	S430-2
prerequisites:	PRJ-chain-b1-root-key
malformations:	None

A.5.5. Chain C1 Certificate Files**A.5.5.1. chain-c1-root**

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c1-root.pem
description:	Self-signed root certificate for KDS devices
conforms to:	S430-2
prerequisites:	KDS-chain-c1-root-key
malformations:	None

A.5.6. Chain C3 Certificate Files

A.5.6.1. chain-c3-root

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-root.pem
description:	Self-signed root certificate for KDS devices
conforms to:	S430-2
prerequisites:	KDS-chain-c3-root-key
malformations:	None

A.5.6.2. chain-c3-signer1

Item Data	Data Description
type:	IMB Certificate
filename:	KDS-chain-c3-signer1.pem
description:	Intermediate Signer, level one
conforms to:	S430-2
prerequisites:	KDS-chain-c3-root, KDS-chain-c3-signer1-key
malformations:	None

A.5.6.3. chain-c3-osig-type

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-osig-type.pem
description:	Signature algorithm of outside signature is sha1WithRSAEncryption
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.4. chain-c3-isig-type

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-isig-type.pem
description:	Signature algorithm inside signature not sha256WithRSAEncryption
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Signature algorithm inside the signature is sha1WithRSAEncryption

A.5.6.5. chain-c3-iosig-type

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-iosig-type.pem
description:	Signature algorithm inside and outside identical, but not sha256WithRSAEncryption
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Signature algorithm is sha1 WithRSAEncryption

A.5.6.6. chain-c3-no-rsa

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-rsa.pem
description:	Public Key not an RSA Key
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-no-rsa-key
malformations:	Public Key is a DSA key.

A.5.6.7. chain-c3-short-rsa

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-short-rsa.pem
description:	Public Key Length 1024 bit
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-short-rsa-key
malformations:	Public key is 1024 bits.

A.5.6.8. chain-c3-bad-exp

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-bad-exp.pem
description:	Public Key Exponent other than default 65537
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-bad-exp-key
malformations:	Public Key Exponent is 3.

A.5.6.9. chain-c3-BER-enc

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-BER-enc.pem
description:	Encoded as BER (not DER)
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Certificate uses BER encoding.

A.5.6.10. chain-c3-no-saf

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-saf.pem
description:	Missing SignatureAlgorithm field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	SignatureAlgorithm field is not present

A.5.6.11. chain-c3-no-svf

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-svf.pem
description:	Missing SignatureValue field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing SignatureValue field

A.5.6.12. chain-c3-no-ver

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-ver.pem
description:	Missing Version field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing Version field

A.5.6.13. chain-c3-no-sn

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-sn.pem
description:	Missing SerialNumber field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing SerialNumber field

A.5.6.14. chain-c3-no-sig

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-sig.pem
description:	Missing Signature field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing Signature field

A.5.6.15. chain-c3-no-issuer

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-issuer.pem
description:	Missing Issuer field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	The Issuer field is not present.

A.5.6.16. chain-c3-no-subject

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-subject.pem
description:	Missing Subject field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing Subject field

A.5.6.17. chain-c3-no-spki

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-spki.pem
description:	Missing SubjectPublicKeyInfo field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing SubjectPublicKeyInfo field

A.5.6.18. chain-c3-no-val-f

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-val-f.pem
description:	Missing Validity field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Missing Validity field

A.5.6.19. chain-c3-no-aki-f

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-aki-f.pem
description:	Missing AuthorityKeyIdentifier field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	The AuthorityKeyIdentifier is not present.

A.5.6.20. chain-c3-no-keyuse

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-keyuse.pem
description:	Missing KeyUsage field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	The Key Usage field is not present.

A.5.6.21. chain-c3-no-basic

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-no-basic.pem
description:	Missing BasicConstraint field
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	The Basic Constraints field is not present.

A.5.6.22. chain-c3-path-1

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-1.pem
description:	Cert.Auth. true, PathLenpresent and zero
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.23. chain-c3-path-2

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-2.pem
description:	Cert.Auth. true, PathLen present and positive
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.24. chain-c3-path-3

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-3.pem
description:	Cert.Auth. true, PathLen present and negative
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	PathLen is -1.

A.5.6.25. chain-c3-path-4

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-4.pem
description:	Cert.Auth. false, PathLen absent
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.26. chain-c3-path-5

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-5.pem
description:	Cert.Auth. false, PathLen zero
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.27. chain-c3-path-6

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-6.pem
description:	Cert.Auth. false, PathLen positive
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.28. chain-c3-path-7

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-path-7.pem
description:	Cert.Auth. false, PathLen negative
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.6.29. chain-c3-org-name

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-org-name.pem
description:	OrganizationName in subject and issuer fields does not match
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	OrganizationName in subject field has first two letters transposed.

A.5.6.30. chain-c3-role-1

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-role-1.pem
description:	Cert.Auth. False, no role specified in CommonName
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Common Name begins with a period (".")

A.5.6.31. chain-c3-date-exp

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-date-exp.pem
description:	Expired
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	Certificate Not After field contains a date value in the past.

A.5.6.32. chain-c3-role-2

Item Data	Data Description
type:	KDS Certificate
filename:	KDS-chain-c3-role-2.pem
description:	Cert.Auth. False, role error (CN contains only FMI).
conforms to:	S430-2
prerequisites:	KDS-chain-c3-signer1, KDS-chain-c3-leaf-key
malformations:	None

A.5.7. Public/Private Key Pairs

A.5.7.1. chain-a3-bad-exp-key

Item Data	Data Description
type:	RSA keypair
filename:	IMB-chain-a3-bad-exp-key.pem
description:	RSA keypair for Public Key Exponent other than the required 65537
conforms to:	S430-2
prerequisites:	None
malformations:	Public Key Exponent is 3.

A.5.7.2. chain-a3-leaf-key

Item Data	Data Description
type:	RSA keypair
filename:	IMB-chain-a3-leaf-key.pem
description:	RSA keypair for leaf
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.3. chain-a3-no-rsa-key

Item Data	Data Description
type:	DSA keypair
filename:	IMB-chain-a3-no-rsa-key.pem
description:	DSA keypair for Public Key not an RSA Key
conforms to:	S430-2
prerequisites:	None
malformations:	Public Key is a DSA key.

A.5.7.4. chain-a3-root-key

Item Data	Data Description
type:	RSA keypair
filename:	IMB-chain-a3-root-key.pem
description:	RSA keypair for root cert, malformed leaves
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.5. chain-a3-short-rsa-key

Item Data	Data Description
type:	RSA keypair
filename:	IMB-chain-a3-short-rsa-key.pem
description:	RSA keypair for Public Key Length 1024 bit
conforms to:	S430-2
prerequisites:	None
malformations:	Public key is 1024 bits.

A.5.7.6. chain-a3-signer1-key

Item Data	Data Description
type:	RSA keypair
filename:	IMB-chain-a3-signer1-key.pem
description:	RSA keypair for Intermediate Signer, level one
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.7. chain-c1-root-key

Item Data	Data Description
type:	RSA keypair
filename:	KDS-chain-c1-root-key.pem
description:	RSA keypair for self-signed root certificate for KDS devices
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.8. chain-c3-bad-exp-key

Item Data	Data Description
type:	RSA keypair
filename:	KDS-chain-c3-bad-exp-key.pem
description:	RSA keypair for Public Key Exponent other than default 65537
conforms to:	S430-2
prerequisites:	None
malformations:	Public Key Exponent is 3.

A.5.7.9. chain-c3-leaf-key

Item Data	Data Description
type:	RSA keypair
filename:	KDS-chain-c3-leaf-key.pem
description:	RSA keypair for leaf
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.10. chain-c3-no-rsa-key

Item Data	Data Description
type:	DSA keypair
filename:	KDS-chain-c3-no-rsa-key.pem
description:	DSA keypair for Public Key not an RSA Key
conforms to:	S430-2
prerequisites:	None
malformations:	Public Key is a DSA key.

A.5.7.11. chain-c3-root-key

Item Data	Data Description
type:	RSA keypair
filename:	KDS-chain-c3-root-key.pem
description:	RSA keypair for self-signed root certificate for KDS devices
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.12. chain-c3-short-rsa-key

Item Data	Data Description
type:	RSA keypair
filename:	KDS-chain-c3-short-rsa-key.pem
description:	RSA keypair for Public Key Length 1024 bit
conforms to:	S430-2
prerequisites:	None
malformations:	Public key is 1024 bits.

A.5.7.13. chain-c3-signer1-key

Item Data	Data Description
type:	RSA keypair
filename:	KDS-chain-c3-signer1-key.pem
description:	RSA keypair for Intermediate Signer, level one
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.5.7.14. chain-b1-root-key

Item Data	Data Description
type:	RSA keypair
filename:	PRJ-chain-b1-root-key.pem
description:	RSA keypair for self-signed root certificate for PRJ devices
conforms to:	S430-2
prerequisites:	None
malformations:	None

A.6. Key Delivery Messages

A.6.1. Introduction

The KDM files defined in this section must be generated for the device under test and the time and date of the test procedure.

A.6.2. KDM for DCI 2K Sync Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_sync_test_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct.cpl
malformations:	None

A.6.3. KDM for DCI 2K Sync Test with Subtitles (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sync_test_with_subs_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sync_test_with_subs_ct.cpl
malformations:	None

A.6.4. KDM for DCI 2K Image with Frame Number Burn In (Encrypted)

Item Data	Data Description
type:	KDM
filename:	frame_num_burn_in_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	frame_num_burn_in_ct.cpl
malformations:	None

A.6.5. KDM for 2K StEM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_StEM_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct.cpl
malformations:	None

A.6.6. KDM for 2K StEM Sequence (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_StEM_sequence_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_sequence_ct.cpl
malformations:	None

A.6.7. KDM for 128 Reel Composition, "A" Series (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_StEM_128_a_reels_ct.kdm.xml
description:	KDM that has all content keys for the track files referenced by the CPL, and additionally has one each of key types FMIK and FMAK. The FMIK and FMAK key values shall be appropriate for the specifications of the FM system used by the Test Subject.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_128_a_reels_ct.cpl
malformations:	None

A.6.8. KDM for 128 Reel Composition, "B" Series (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_StEM_128_b_reels_ct.kdm.xml
description:	KDM that has all content keys for the track files referenced by the CPL, and additionally has one each of key types FMIK and FMAK. The FMIK and FMAK key values shall be appropriate for the specifications of the FM system used by the Test Subject.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_128_b_reels_ct.cpl
malformations:	None

A.6.9. KDM for 64 1 second reel Composition (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_StEM_64_1_second_reels_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_64_1_second_reels_ct.cpl
malformations:	None

A.6.10. KDM for 2K FM Application Constraints (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_fm_constraints_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_fm_constraints_ct.cpl
malformations:	None

A.6.11. KDM for 2K FM Control Granularity - No FM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_fm_control_granularity_no_fm.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_fm_control_granularity_no_fm.cpl
malformations:	None

A.6.12. KDM for 2K FM Control Granularity - Image Only FM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_fm_control_granularity_image_only_fm.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_fm_control_granularity_image_only_fm.cpl
malformations:	None

A.6.13. KDM for 2K FM Control Granularity - Sound Only FM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_fm_control_granularity_sound_only_fm.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_fm_control_granularity_sound_only_fm.cpl
malformations:	None

A.6.14. KDM for 2K FM Control Granularity - Image and Sound FM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_fm_control_granularity_image_and_sound_fm.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_fm_control_granularity_image_and_sound_fm.cpl
malformations:	None

A.6.15. KDM for 2K FM Payload (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_fm_payload_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_fm_payload_ct.cpl
malformations:	None

A.6.16. KDM for Binary Audio Forensic Marking Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	binary_audio_fm_ct.kdm.xml
description:	KDM with "no FM mark" flag applied to audio.
conforms to:	S430-1, S430-3
prerequisites:	binary_audio_fm_ct.cpl
malformations:	None

A.6.17. KDM for Binary Selective Audio Forensic Marking Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	binary_selective_audio_fm_6ch_ct.kdm.xml
description:	KDM with audio forensic marking disabled on audio channels above 6 using the "selective audio FM mark" command.
conforms to:	S430-1, S430-3
prerequisites:	binary_audio_fm_ct.cpl
malformations:	None

A.6.18. KDM for Selective Audio FM - All FM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	selective_audio_fm_all-fm_ct.kdm.xml
description:	KDM with all audio forensic marking enabled on all audio channels.
conforms to:	S430-1, S430-3
prerequisites:	selective_audio_fm_all-fm_ct.cpl
malformations:	None

A.6.19. KDM for Selective Audio FM - No FM (Encrypted)

Item Data	Data Description
type:	KDM
filename:	selective_audio_fm_no-fm_ct.kdm.xml
description:	KDM with all audio forensic marking disabled by the "no FM mark" URI.
conforms to:	S430-1, S430-3
prerequisites:	selective_audio_fm_no-fm_ct.cpl
malformations:	None

A.6.20. KDM for Selective Audio FM - Not Above Channel 6 (Encrypted)

Item Data	Data Description
type:	KDM
filename:	selective_audio_fm_6ch_ct.kdm.xml
description:	KDM with audio forensic marking disabled on audio channels above 6 using the "selective audio FM mark" command. The KDM also has the "no FM mark" URI, which should be overridden by the "selective audio FM mark" URI.
conforms to:	S430-1, S430-3
prerequisites:	selective_audio_fm_6ch_ct.cpl
malformations:	None

A.6.21. KDM for Selective Audio FM - Not Above Channel 8 (Encrypted)

Item Data	Data Description
type:	KDM
filename:	selective_audio_fm_8ch_ct.kdm.xml
description:	KDM with audio forensic marking disabled on audio channels above 8 using the "selective audio FM mark" command.
conforms to:	S430-1, S430-3
prerequisites:	selective_audio_fm_8ch_ct.cpl
malformations:	None

A.6.22. KDM for Selective Audio FM - Not Above Channel 10 (Encrypted)

Item Data	Data Description
type:	KDM
filename:	selective_audio_fm_10ch_ct.kdm.xml
description:	KDM with audio forensic marking disabled on audio channels above 10 using the "selective audio FM mark" command.
conforms to:	S430-1, S430-3
prerequisites:	selective_audio_fm_10ch_ct.cpl
malformations:	None

A.6.23. KDM for Selective Audio FM - Not Above Channel 17 (Encrypted)

Item Data	Data Description
type:	KDM
filename:	selective_audio_fm_17ch_ct.kdm.xml
description:	KDM with audio forensic marking disabled on audio channels above 17 using the "selective audio FM mark" command. The KDM also has the "no FM mark" URI, which should be overridden by the "selective audio FM mark" URI.
conforms to:	S430-1, S430-3
prerequisites:	selective_audio_fm_17ch_ct.cpl
malformations:	None

A.6.24. KDM with two selective audio FM mark URIs

Item Data	Data Description
type:	KDM
filename:	kdm-malf-2-selective-fm-cmds.kdm.xml
description:	KDM that contains more than one selective audio FM mark URIs
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct.cpl
malformations:	KDM contains one <code>ForensicMarkFlag</code> element with the value " http://www.dcimovies.com/430-1/2006/KDM#mrkflg-audio-disable-above-channel-06 ", and one <code>ForensicMarkFlag</code> element with the value " http://www.dcimovies.com/430-1/2006/KDM#mrkflg-audio-disable-above-channel-08 "

A.6.25. KDM for 2K Maximum Bitrate Composition (Encrypted)

Item Data	Data Description
type:	KDM
filename:	2K_max_bitrate_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	2K_max_bitrate_ct.cpl
malformations:	None

A.6.26. KDM for 4K Maximum Bitrate Composition (Encrypted)

Item Data	Data Description
type:	KDM
filename:	4K_max_bitrate_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	4K_max_bitrate_ct.cpl
malformations:	None

A.6.27. KDM for Past Time Window Extension (Encrypted)

Item Data	Data Description
type:	KDM
filename:	holdover_long_ct-kdm-short-expire.kdm.xml
description:	KDM that has a validity period that is current, but expires in the near future
conforms to:	S430-1, S430-3
prerequisites:	holdover_long_ct
malformations:	The value of the ContentKeysNotValidAfter element is a UTC timestamp no greater than 60 minutes in the future.

A.6.28. KDM for Within Time Window Extension (Encrypted)

Item Data	Data Description
type:	KDM
filename:	holdover_short_ct-kdm-short-expire.kdm.xml
description:	KDM that has a validity period that is current, but expires in the near future
conforms to:	S430-1, S430-3
prerequisites:	holdover_short_ct
malformations:	The value of the ContentKeysNotValidAfter element is a UTC timestamp no greater than 60 minutes in the future.

A.6.29. KDM for DCI Malformed Test 1: Picture with Frame-out-of-order error (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m01_pict_frame_oo_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m01_pict_frame_oo_ct.cpl
malformations:	None

A.6.30. KDM for DCI Malformed Test 2: Sound with Frame-out-of-order error (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m02_snd_frame_oo_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m02_snd_frame_oo_ct.cpl
malformations:	None

A.6.31. KDM for DCI Malformed Test 4: DCP With an incorrect audio TrackFile ID (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m04_sndtk_wrong_file_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m04_sndtk_wrong_file_ct.cpl
malformations:	None

A.6.32. KDM for DCI Malformed Test 5: DCP With an incorrect image TrackFile ID (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m05_pict_wrong_file_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m05_pict_wrong_file_ct.cpl
malformations:	None

A.6.33. KDM for DCI Malformed Test 6: CPL with incorrect track file hashes (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m06_cpl_hash_error_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m06_cpl_hash_error_ct.cpl
malformations:	None

A.6.34. KDM for DCI Malformed Test 7: CPL with an Invalid Signature (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m07_cpl_invalid_signature_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m07_cpl_invalid_signature_ct.cpl
malformations:	None

A.6.35. KDM for DCI Malformed Test 9: Picture with HMAC error in MXF Track File (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m09_pict_bad_hmac_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m09_pict_bad_hmac_ct.cpl
malformations:	None

A.6.36. KDM for DCI Malformed Test 10: Sound with HMAC error in MXF Track File (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m10_snd_bad_hmac_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m10_snd_bad_hmac_ct.cpl
malformations:	None

A.6.37. KDM for DCI Malformed Test 11: Picture with Check Value error in MXF Track File (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m11_pict_bad_chuk_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m11_pict_bad_chuk_ct.cpl
malformations:	None

A.6.38. KDM for DCI Malformed Test 12: Sound with Check Value error in MXF Track File (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m12_snd_bad_chuk_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m12_snd_bad_chuk_ct.cpl
malformations:	None

A.6.39. KDM for DCI Malformed Test 13: CPL that references a non-existent track file (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m13_cpl_missing_asset_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m13_cpl_missing_asset_ct.cpl
malformations:	None

A.6.40. KDM for DCI Malformed Test 14: CPL that does not conform to ST 429-7 (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m14_cpl_format_error_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m14_cpl_format_error_ct.cpl
malformations:	None

A.6.41. KDM for DCI Malformed Test 15: CPL signed by a certificate not conforming to ST 430-2 (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m15_cpl_signer_format_error_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m15_cpl_signer_format_error_ct.cpl
malformations:	None

A.6.42. KDM for DCI Malformed Test 16: CPL signed with No Role Certificate (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m16_cpl_malf_signer_no_role_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m16_cpl_malf_signer_no_role_ct.cpl
malformations:	None

A.6.43. KDM for DCI Malformed Test 17: CPL signed with Bad Role Certificate (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m17_cpl_malf_signer_bad_role_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3x
prerequisites:	m17_cpl_malf_signer_bad_role_ct.cpl
malformations:	None

A.6.44. KDM for DCI Malformed Test 18: KDM for CPL signed with Extra Role Certificate (Encrypted)

Item Data	Data Description
type:	KDM
filename:	m18_cpl_malf_signer_extra_role_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	m18_cpl_malf_signer_extra_role_ct.cpl
malformations:	None

A.6.45. KDM with invalid XML

Item Data	Data Description
type:	KDM
filename:	kdm-malf-any.kdm.xml
description:	KDM that contains an invalid XML file format
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	Missing </DCinemaSecurityMessage> tag

A.6.46. KDM that has expired

Item Data	Data Description
type:	KDM
filename:	kdm-expired.kdm.xml
description:	KDM that has a validity period that has expired
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The value of the ContentKeysNotValidAfter element is a UTC timestamp at least 24 hours in the past.

A.6.47. KDM with future validity period

Item Data	Data Description
type:	KDM
filename:	kdm-near-future.kdm.xml
description:	KDM that has a validity period in the future according to the full ContentKeysNotValidBefore timestamp but is valid now if the local offset is ignored.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The value of the ContentKeysNotValidBefore element is a UTC timestamp between 4 and 6 hours in the future, with a local offset of -06:00.

A.6.48. KDM that has recently expired

Item Data	Data Description
type:	KDM
filename:	kdm-recent-expired.kdm.xml
description:	KDM that has a validity period that has expired according to the full ContentKeysNotValidAfter timestamp but that has not expired if the local offset is ignored.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The value of the ContentKeysNotValidAfter element is a UTC timestamp between 4 and 6 hours in the past, with a local offset of +06:00.

A.6.49. KDM with incorrect message digest

Item Data	Data Description
type:	KDM
filename:	kdm-malf-sig-digest.kdm.xml
description:	KDM in which a Signature Digest has been altered
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The plaintext form of the encrypted message digest in the signature is not the same value as a calculated message digest of the KDM.

A.6.50. KDM with future validity period

Item Data	Data Description
type:	KDM
filename:	kdm-future.kdm.xml
description:	KDM that has a validity period that is in the future
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The value of the ContentKeysNotValidBefore element is a UTC timestamp at least 24 hours in the future.

A.6.51. KDM with empty TDL

Item Data	Data Description
type:	KDM
filename:	kdm-no-tdl.kdm.xml
description:	KDM that has an empty Trusted Device List (TDL)
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The DeviceList element of the KDM is empty.

A.6.52. KDM with Assume Trust and random TDL entries

Item Data	Data Description
type:	KDM
filename:	kdm-assume-trust-and-more.kdm.xml
description:	KDM with a TDL consisting of one entry Assume Trust entry (i.e. "2jmj7l5rSw0yVb/vlWAYkK/YBwk=") and one random entry.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.53. KDM with the SM alone on the TDL

Item Data	Data Description
type:	KDM
filename:	kdm-self-tdl.kdm.xml
description:	KDM with a single entry on its TDL corresponding the recipient's SM certificate.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.54. KDM with the projector and LDB on the TDL

Item Data	Data Description
type:	KDM
filename:	kdm-ldb-projector-tdl.kdm.xml
description:	KDM with two entries on its TDL corresponding the projector SPB and LDB connected to the MB.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.55. KDM with the projector alone on the TDL

Item Data	Data Description
type:	KDM
filename:	kdm-projector-tdl.kdm.xml
description:	KDM with a single entry on its TDL corresponding the projector SPB connected to the MB.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.56. KDM with the LDB alone on the TDL

Item Data	Data Description
type:	KDM
filename:	kdm-ldb-tdl.kdm.xml
description:	KDM with a single entry on its TDL corresponding the LDB connected to the MB.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.57. KDM with corrupted CipherData block

Item Data	Data Description
type:	KDM
filename:	kdm-malf-CipherData-block.kdm.xml
description:	KDM that contains an Invalid Structure ID field in the CipherData element
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The first byte of the Structure ID field contained in the <enc:CipherValue> element inside the <enc:CipherData> element has been changed from "F1" to "1F"

A.6.58. KDM with incorrect signer thumbprint

Item Data	Data Description
type:	KDM
filename:	kdm-malf-signer-tp.kdm.xml
description:	KDM for which the Thumbprint of the Signer's Certificate does not match the Signer of the KDM
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The thumbprint of the signer certificate as listed in the KDM is incorrect and does not match the thumbprint for the issuing certificate.

A.6.59. KDM without signer certificate

Item Data	Data Description
type:	KDM
filename:	kdm-malf-chain.kdm.xml
description:	KDM in which the Certificate chain does not contain the Signer's Certificate
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The certificate that signed the KDM is not included in the KDM.

A.6.60. KDM without AuthorityKey certificate

Item Data	Data Description
type:	KDM
filename:	kdm-malf-chain-no-cert-authkeyid.kdm.xml
description:	KDM in which the Certificate chain does not contain the certificate specified by the AuthorityKeyIdentifier value in the Signer Certificate
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	A KDM that specifies the signer's issuer certificate as the AuthorityKeyIdentifier but which does not contain that certificate.

A.6.61. KDM with KeyInfo mismatch

Item Data	Data Description
type:	KDM
filename:	kdm-bad-keyinfo.kdm.xml
description:	KeyInfo field of the audio EncryptedKey element does not match the KeyInfo field of the image EncryptedKey element
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The KeyInfo element of the audio encrypted key data contains the correct Issuer Name and an incorrect IssuerSerial of the certificate of the recipient of the KDM.

A.6.62. KDM with invalid MessageType

Item Data	Data Description
type:	KDM
filename:	kdm-malf-bad-MessageType.kdm.xml
description:	KDM with an Invalid MessageType element
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	MessageType element contains: "http://www.smpte-qa.org/430-1/2006/KDM#kdm-key-type"

A.6.63. KDM with expired Signer certificate

Item Data	Data Description
type:	KDM
filename:	kdm-malf-expired-signer.kdm.xml
description:	KDM with an expired Signer's Certificate and an ETM IssueDate later than Signer's Certificate expiry date
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	KDM signer's certificate's Validity "Not After" date is earlier than ETM IssueDate

A.6.64. KDM issued before certificate valid

Item Data	Data Description
type:	KDM
filename:	kdm-malf-issue-before-cert-valid.kdm.xml
description:	KDM with a valid Signer's Certificate, but ETM issue date before Signer's Certificate issue date
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The <IssueDate> element contains a date prior to the date of the signer certificate's Validity "Not Before" date.

A.6.65. KDM validity exceeds signer validity

Item Data	Data Description
type:	KDM
filename:	kdm-malf-signer-cert-exp-before-kdm-expires.kdm.xml
description:	KDM with a validity period that extends beyond the validity of Signer's Certificate expiry date.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The KDM has a ContentKeysNotValidAfter value later than the signer certificate's "Not After" value.

A.6.66. KDM with mismatched keytype

Item Data	Data Description
type:	KDM
filename:	kdm-malf-mismatched-key-keytype.kdm.xml
description:	KDM with an encryption key that is valid but has an incorrect keytype
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	Key is a valid image encryption key but has the keytype "MDAK".

A.6.67. KDM with non-empty NonCriticalExtensions

Item Data	Data Description
type:	KDM
filename:	kdm-with-non-crit-exts.kdm.xml
description:	KDM with a non-empty NonCriticalExtensions element
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.68. KDM with invalid ContentAuthenticator

Item Data	Data Description
type:	KDM
filename:	kdm-malf-bad-ContentAuthenticator.kdm.xml
description:	KDM with an Invalid ContentAuthenticator element
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	the content of the ContentAuthenticator element shall contain a thumbprint of a D-Cinema cert that does not match one in the signer chain of the CPL that the KDM references.

A.6.69. KDM with bad CompositionPlaylistId value

Item Data	Data Description
type:	KDM
filename:	kdm-malf-bad-CompositionPlaylistId.kdm.xml
description:	KDM with an incorrect value in the CompositionPlaylistId element.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The content of the CompositionPlaylistId element shall contain a UUID value that does not match the Id value of the associated CPL.

A.6.70. KDM with bad CipherData CompositionPlaylistId value

Item Data	Data Description
type:	KDM
filename:	kdm-malf-bad-CipherData-CPLId.kdm.xml
description:	KDM with an incorrect value in the CompositionPlaylistId field of the CipherData structure.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The content of the CompositionPlaylistId field of the CipherData structure shall contain a UUID value that does not match the Id value of the associated CPL.

A.6.71. KDM with incorrect namespace name value

Item Data	Data Description
type:	KDM
filename:	kdm-malf-bad-namespace.kdm.xml
description:	KDM has the wrong namespace name.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The namespace name corresponding to the top level XML element does not match the value given in SMPTE-430-3-2006. The bogus value http://www.smpte-qa.org/schemas/430-3/2001/ETM shall be used.

A.6.72. KDM with random TDL entry

Item Data	Data Description
type:	KDM
filename:	kdm-random-tdl.kdm.xml
description:	KDM has a random entry that does not match any known remote SPB.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The DeviceInfoList contains a single entry, a randomly generated value.

A.6.73. KDM signed with incorrect signer certificate format

Item Data	Data Description
type:	KDM
filename:	kdm-malf-signer-format.kdm.xml
description:	KDM which has been signed with a certificate not conforming with SMPTE-430-2-2006.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	The certificate that signed the KDM is Interop format.

A.6.74. KDM with Assume Trust TDL Entry

Item Data	Data Description
type:	KDM
filename:	kdm-assume-trust.kdm.xml
description:	KDM which has only the empty-string thumbprint "assume trust" in the TDL (i.e. "2jmj7l5rSw0yVb/vlWAYkK/YBwk=").
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.75. KDM for 2K StEM with Device Specific Special Auditorium TDL

Item Data	Data Description
type:	KDM
filename:	2K_StEM_ct_device_specific_special_auditorium.kdm.xml
description:	KDM that has a TDL containing the certificate thumbprints of devices specific to a Special Auditorium Situation.
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct.cpl
malformations:	None

A.6.76. KDM for DCI 2K StEM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation

Item Data	Data Description
type:	KDM
filename:	kdm-5-3-2-2.kdm.xml
description:	KDM for DCI 2K StEM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.77. KDM with a TDL including Responder A

Item Data	Data Description
type:	KDM
filename:	kdm-6-1-7-responder-a.kdm.xml
description:	KDM with a TDL that contains the thumbprint for the certificate of Responder A
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.78. KDM with a TDL including Responder B

Item Data	Data Description
type:	KDM
filename:	kdm-6-1-7-responder-b.kdm.xml
description:	KDM with a TDL that contains the thumbprint for the certificate of Responder B
conforms to:	S430-1, S430-3
prerequisites:	2K_StEM_ct-kdm
malformations:	None

A.6.79. KDM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation and an additional device certificate

Item Data	Data Description
type:	KDM
filename:	kdm-6-2-2-special-auditorium-situation-and-additional-thumbprint.kdm.xml
description:	KDM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation and an additional device certificate.
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct-kdm
malformations:	None

KDM with a TDL that contains
all but one of the certificate
thumbprints for the devices in
the special auditorium situation

A.6.80. KDM with a TDL that contains all but one of the certificate thumbprints for the devices in the special auditorium situation

Item Data	Data Description
type:	KDM
filename:	kdm-6-2-2-special-auditorium-situation-less-one-thumbprint.kdm.xml
description:	KDM with a TDL that contains all but one of the certificate thumbprints for the devices in that special auditorium situation.
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct-kdm
malformations:	None

A.6.81. KDM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation and the "assume trust" thumbprint

Item Data	Data Description
type:	KDM
filename:	kdm-6-2-2-special-auditorium-situation-and-assume-trust-thumbprint.kdm.xml
description:	KDM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation and the "assume trust" thumbprint.
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct-kdm
malformations:	None

A.6.82. KDM with a TDL that contains one more LD/LE device thumbprints than there are LD/projector thumbprints in the special auditorium situation

Item Data	Data Description
type:	KDM
filename:	kdm-6-2-2-special-auditorium-situation-and-additional-ld-le-thumbprint.kdm.xml
description:	KDM with a TDL that contains one more LD/LE device thumbprints than there are LD/projector thumbprints in the special auditorium situation.
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct-kdm
malformations:	None

A.6.83. KDM with Assume Trust TDL Entry

Item Data	Data Description
type:	KDM
filename:	kdm-6-2-2-assume-trust.kdm.xml
description:	KDM which has only the empty-string thumbprint "assume trust" in the TDL (i.e. "2jmj715rSw0yVb/vlWAYkK/YBwk=").
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct-kdm
malformations:	None

A.6.84. KDM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation

Item Data	Data Description
type:	KDM
filename:	kdm-6-2-2-special-auditorium-situation.kdm.xml
description:	KDM with a TDL that contains all of the certificate thumbprints for the devices in the special auditorium situation.
conforms to:	S430-1, S430-3
prerequisites:	2K_sync_test_ct-kdm
malformations:	None

A.6.85. KDM for 2K Scope Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_2K_scope_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_2K_scope_ct.cpl
malformations:	None

A.6.86. KDM for 2K Flat Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_2K_flat_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_2K_flat_ct.cpl
malformations:	None

A.6.87. KDM for 2K Full Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_2K_full_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_2K_full_ct.cpl
malformations:	None

A.6.88. KDM for 4K Scope Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_4K_scope_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_4K_scope_ct.cpl
malformations:	None

A.6.89. KDM for 4K Flat Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_4K_flat_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_4K_flat_ct.cpl
malformations:	None

A.6.90. KDM for 4K Full Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_4K_full_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_4K_full_ct.cpl
malformations:	None

A.6.91. KDM for 2K 48fps Scope Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_48fps_scope_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_48fps_scope_ct.cpl
malformations:	None

A.6.92. KDM for 2K 48fps Flat Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_48fps_flat_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_48fps_flat_ct.cpl
malformations:	None

A.6.93. KDM for 2K 48fps Full Subtitle Test (Encrypted)

Item Data	Data Description
type:	KDM
filename:	sub_test_48fps_full_ct.kdm.xml
description:	
conforms to:	S430-1, S430-3
prerequisites:	sub_test_48fps_full_ct.cpl
malformations:	None

Appendix I "Subtitle Test Evaluation and Pass/Fail Criteria"

Add in its entirety following Appendix H:

Appendix I. Subtitle Test Evaluation and Pass/Fail Criteria

Overview

The following describes evaluation requirements, basic and specific pass/fail criteria to be used when testing the subtitle rendering capabilities of the Test Subject, as called for in Section 6.7.1: Media Block Overlay and Section 7.5.1: Projector Overlay.

It is expected that the Test Operator shall, by referencing both the CPL and the referenced subtitle track file XML, confirm that all elements expected to appear on (or off) screen for each scene, do so with all intended characteristics. This includes, but is not limited to, positioning, alignment, font size, color, script, effect, effect color, italic, underline, bold, aspect adjust and spacing, whether specified directly, default values, or inherited from ancestor values or defaults.

The colorimetric relationship between the PNG image and the image contained in the DCDM* is, at the time of publication of this document, under study. Unexpected appearance of saturation, hue, luminance and bit-depth of PNG images should be noted in the test results and brought to the attention of the manufacturer pending further work to quantify this relationship. At this time, the Test Subject shall not be subject to failing this test on such characteristics.

The behavior of the `Direction` attribute of the `Text` element and/or the Unicode Bidirectional Algorithm is, at the time of publication of this document, under study. Scenes that utilize these features should be noted in the test results and brought to the attention of the manufacturer pending further work to quantify this relationship. At this time, the Test Subject shall not be subject to failing this test on such characteristics.

Basic Pass/Fail Criteria:

This section describes general pass/fail criteria to be applied to all scenes unless Specific Criteria directs otherwise.

Main Picture Image Track Files - Labels: The image track files referenced by the compositions have a burned-in label in a small text font, centered horizontally and close to the bottom of the main picture. The label is comprised of the image structure of the sequence being viewed (2K, 4K, or 2K-48fps), the aspect ratio, and the name of the scene. The name of the scene may be used to locate specific pass/fail requirements for a particular scene, and descriptive notes to the test operator, providing additional context.

Bounding Boxes: White bounding boxes, with a one pixel size, are burned into the image track files to confirm correct positioning of the rendered timed text. Some slides, mainly those that announce upcoming scenes, present timed text that do not have bounding boxes. When bounding boxes are displayed, the associated text is intended to fall completely within the boxes. Differences in implementations can produce significant differences in the vertical positioning of text, depending on whether the renderer uses the baseline of the text characters, or the edges of the rendered characters for positioning. Exceeding the bounding boxes shall not be cause to fail the test.

Composition Main Picture and Alpha Channel Timing: The appearance of a particular label on the main picture, is intended to be accompanied by that scene's rendered text, and/or PNG images, as determined by the provided `FadeUpTime` and `FadeDownTime` Text and/or Image element parameters, or their default value of 2 frames if none are specified. For example, for the beginning title slide, "2K-scope-title", the image track file will display the label for 240 frames (10 seconds). The `FadeUpTime` and `FadeDownTime` parameters are not specified for the accompanying timed text, so for the 1st frame that displays the image label no timed text should be visible, the 2nd frame should have the timed text at 50% opacity of the rendered intent (the element's final opacity is specified by a parameter of the `Font` element), and frames 3 until 238 inclusive should have

the timed text at 100% opacity of the rendered intent. Frame 239 should be identical to frame 2, and frame 240 should have no visible timed text. Except where specified, if the timing of the rendered text and/or PNG images differs by more than plus or minus 3 frames from that commanded by the Subtitle DCDM and the controlling CPL, this is cause to fail the test.

Some of the slides that test PNG images have `FadeUpTime` and `FadeDownTime` values of zero, so it is not expected, or correct behavior, for the corresponding image track labels to be visible with these slides.

Specific Pass/Fail Criteria.

This section lists pass/fail criteria specific to each scene in the composition. The identifier for each scene is constructed by prepending the image structure and aspect-ratio for the variant under test to the scene title. E.g. "2K-scope-title" or "2K-48fps-flat-title" as applicable. For each of the scenes, refer to the text below the identifier. Descriptions of scene specific elements may be described more fully. Scene specific pass/fail requirements are presented as bullet lists.

Scene 1: <2K|4K[-48fps]-scopelflat|full>-title

The evaluation of the first scene, and all subsequent scenes, must be determined from the display of a normal, single, continuous playback of the composition. To clarify, the composition must be selected, or loaded into a show playlist, and caused to play without using functions such as “pause” or “rewind”, which may cause buffering, or other system behaviors that may have an effect of the ability of the system to display subtitles with the correct timing relationship to the other essence tracks.

- The rendered subtitle text must appear on screen within 3 seconds of the appearance of the label in the main picture. If this requirement is not observed, this is cause to fail this test.

Scene 2: <2K|4K[-48fps]-scopelflat|full>-out-of-bounds-character-codes

- In the top bounding box, the appearance of any character, space, partial character, or partial space, other than the words “digital”, and “cinema”, with no spaces between them, is cause to fail this test.
- In the middle bounding box, the appearance of any character, or partial character, is cause to fail this test.
- In the lower bounding box, the appearance of any character, space, partial character, or partial space, other than the letters “ABCDEF”, with no spaces between them, is cause to fail this test.

Scene 3: <2K|4K[-48fps]-scopelflat|full>-control-codes

- In the top bounding box, the appearance of any character, space, partial character, or partial space, other than the words “digital”, and “cinema”, with no spaces between them, is cause to fail this test.
- In the middle bounding box, the appearance of any character, or partial character, is cause to fail this test.
- In the lower bounding box, the appearance of any character, space, partial character, or partial space, other than the letters “ABCDEF”, with no spaces between them, is cause to fail this test.

Scene 4: <2K|4K[-48fps]-scopelflat|full>-4-byte-UTF-8-characters

Record whether the Test Subject displays any rendered subtitles during this slide. Note: Failure to display four domino shapes is not cause to fail this test.

- If glyphs other than four domino shapes are displayed, this is cause to fail this test.

Scene 5: <2K|4K[-48fps]-scopelflat|full>-default-font-size-attribute

- If all the “M”s are not the same size, this is cause to fail this test.

Scene 6: <2Kl4K[-48fps]-scopelflatlfull>-font-effects-1

The text in this slide is intended to be red in color. The presence of the shadow and/or border, can cause the red to be perceived differently.

- If the size of the rendered characters does not vary in accordance with the labeled point values, this is cause to fail this test.
- If the body of all text is not substantially red, this is cause to fail this test.
- If any border or shadow effect is visible on any text labeled “No-shadow”, this is cause to fail this test.
- If a green shadow effect is not visible on all text labeled “Green-Shadow”, this is cause to fail this test.
- If any effect, other than a green shadow, is visible on any text labeled “Green-Shadow”, this is cause to fail this test.
- If a white border effect is not visible on all text labeled “White-Border”, this is cause to fail this test.
- If any effect, other than a white border, is visible on any text labeled “White-Border”, this is cause to fail this test.

Scene 7: <2Kl4K[-48fps]-scopelflatlfull>-font-sub-super-script-1

- If the baseline of any of the words “Normal” is not on the same level vertically, this is cause to fail this test.
- If the baseline of the word “Super” is not above that of the words “Normal”, this is cause to fail this test.
- If the baseline of the word “Sub” is not below that of the words “Normal”, this is cause to fail this test.
- If the size of the words “Super” and “Sub” is not 0.6em compared with the 1.0em size of the words “Normal”, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.
- If the baseline of the words “Super” and “Sub” is not offset by a minimum of 0.3em, and a maximum of 0.7em, of the baseline of the 1.0em size of the words “Normal”, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.

Scene 8: <2Kl4K[-48fps]-scopelflatlfull>-font-sub-super-script-2

The scene contains two subtitle instances indicated by their respective bounding boxes, one above the other, designated "upper" and "lower" accordingly.

- If the baseline of both the words “Normal” on each of the two instances is not on the same level vertically, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.
- If the baseline of both the words “Super” is not above that of the words “Normal” on the upper instance, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.
- If the baseline of both the words “Sub” is not below that of the words “Normal” on the lower instance, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.
- If the baseline of the both the words “Super”, or both the words “Sub”, are not on the same level vertically, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.
- If the size of the both the words “Super”, or both the words “Sub”, are not the same, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.

Scene 9: <2Kl4K[-48fps]-scopelflatlfull>-font-sub-super-script-3

The scene contains two subtitle instances indicated by their respective bounding boxes, one above the other, designated "upper" and "lower" accordingly.

-
- For the upper instance, if the baselines of both the words “Super” are not on the same level, and above that of the word “Normal”, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.
 - for the lower instance, if the baselines of both the words “Sub” are not on the same level, and below that of the word “Normal”, inform the manufacturer that the Test Subject may not be fully compliant with newer Standards, but do not fail the device on this criterion.

Scene 10: <2K|4K[-48fps]-scopelflat|full>-font-italic-weight-bold-1

- If the text on any of the lines with the bounding boxes is not yellow, this is cause to fail this test.
- If the text in each of the three lines with the bounding boxes does not have font effects corresponding to the labels, this is cause to fail this test.

Scene 11: <2K|4K[-48fps]-scopelflat|full>-font-color-effectcolor-opacity-1

- If the opacity of the text in the left column does not vary according to the labels, this is cause to fail this test.
- If the opacity of the border effect around the text in the right column does not vary according to the labels. This is cause to fail this test.

Scene 12: <2K|4K[-48fps]-scopelflat|full>-position-screen-center-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 13: <2K|4K[-48fps]-scopelflat|full>-position-screen-center

- If the text is not near the center of the screen, this is cause to fail this test.

Scene 14: <2K|4K[-48fps]-scopelflat|full>-position-screen-4-edges-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 15: <2K|4K[-48fps]-scopelflat|full>-position-screen-4-edges

- If any of the labeled rendered texts are in an incorrect location, this is cause to fail this test.

Scene 16: <2K|4K[-48fps]-scopelflat|full>-position-screen-4-corners-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 17: <2K|4K[-48fps]-scopelflat|full>-position-screen-4-corners-1

With the publication of ST 428-7:2014, the behavior of the alignment of rendered Text elements has changed. In the 2010 revision, the top, center, or bottom of the subtitle instance bounding box is aligned to the primary picture according to the Valign attribute. The 2014 revision aligns the baseline of the rendered text to the primary picture according to the Valign attribute.

- If any of the labeled rendered texts are in an incorrect location, this is cause to fail this test.
- If the Test Subject implements the 2014 Standard, only the descenders of the “Top-Left” and “Top-Right” labels are expected to appear on screen. If this is the case, do not fail the device on this criterion. However, if rendered text is visible outside the limits of the primary picture, this is cause to fail this test.
- If the Test Subject implements the 2014 Standard, the descenders of the “Bottom-Left” and “Bottom-Right” labels are expected to not appear on screen. If this is the case, do not fail the device on this criterion. However, if rendered text is visible outside the limits of the primary picture, this is cause to fail this test.

Scene 18: <2K|4K[-48fps]-scopelflatlfull>-position-screen-4-corners-2

With the publication of ST 428-7:2014, the behavior of the alignment of rendered Text elements has changed. In the 2010 revision, the top, center, or bottom of the subtitle instance bounding box is aligned to the primary picture according to the Valign attribute. The 2014 revision aligns the baseline of the rendered text to the primary picture according to the Valign attribute.

- If any of the labeled rendered texts are in an incorrect location, this is cause to fail this test.

Scene 19: <2K|4K[-48fps]-scopelflatlfull>-position-text-off-screen-1

- Except for the scene identifier, and the sentence inside the bounding box, the presence of any other text, partial text, or rendered artifacts is cause to fail this test.

Scene 20: <2K|4K[-48fps]-scopelflatlfull>-position-text-off-screen-2

- Except for the scene identifier, and the sentence inside the bounding box, the presence of any other text, partial text, or rendered artifacts is cause to fail this test.

Scene 21: <2K|4K[-48fps]-scopelflatlfull>-font-aspect-adjust-tests

- If either of the two shapes that have a horizontal bar across them are not circles, this is cause to fail this test.
- If the shapes to the left of the circle with the bar in the top row do not appear as progressively narrower ellipses (the further away they are) this is cause to fail this test.
- If the shapes to the right of the circle with the bar in the top row do not appear as progressively wider ellipses (the further away they are) this is cause to fail this test.
- If the spaces between the shapes appear inconsistent with the increasing width of the shapes, this is cause to fail this test.

Scene 22: <2K|4K[-48fps]-scopelflatlfull>-space-element-tests

- If the pairs of “M”s are not farthest apart at the top, progressively becoming closer going down, and closest together at the bottom, this is cause to fail this test.

Scene 23: <2K|4K[-48fps]-scopelflatlfull>-428-7-ruby-example-1

- If 3 CJK characters are not displayed with 6 CJK characters above them, this is cause to fail this test.

Scene 24: <2K|4K[-48fps]-scopelflatlfull>-428-7-ruby-example-2

- If 11 large CJK characters are not displayed, this is cause to fail this test.
- If 2 small CJK characters are not displayed below the first 2 large CJK characters, this is cause to fail this test.
- If 6 small CJK characters are not displayed below the fourth, fifth, and sixth large CJK characters, this is cause to fail this test.

Scene 25: <2K|4K[-48fps]-scopelflatlfull>-428-7-ruby-example-3

- If the horizontal text “1963” does not appear at the top, this is cause to fail this test.
- If there are not 9 CJK characters, vertically rendered below the “1963”, this is cause to fail this test.

Scene 26: <2K|4K[-48fps]-scopelflatlfull>-ruby-test-1

- If smaller annotation text reading “World Wide Web” is not displayed close to, and centered above, the larger base text “WWW”, this is cause to fail this test.

Scene 27: <2K|4K[-48fps]-scopelflatlfull>-ruby-test-2

-
- If smaller annotation text reading “Month Day Year” is not displayed close to, and centered above, the larger base text “10 31 2002”, this is cause to fail this test.

Scene 28: <2K|4K[-48fps]-scopelflatlfull>-ruby-test-3

- If smaller annotation text reading “Expiration Date” is not displayed close to, and centered below, the larger base text “10 31 2002”, this is cause to fail this test.

Scene 29: <2K|4K[-48fps]-scopelflatlfull>-ruby-test-4

- If smaller annotation text reading “W3C Associate Chairman” is not displayed close to, and centered below, 4 larger CJK characters, this is cause to fail this test.

Scene 30: <2K|4K[-48fps]-scopelflatlfull>-ruby-test-5

- If smaller, vertical annotation text reading “Shinkansen” from top to bottom, is not displayed close to, and centered on the left, and right sides of 3 larger vertical CJK characters, this is cause to fail this test.

Scene 31: <2K|4K[-48fps]-scopelflatlfull>-ruby-aspectadjust-test

- If any of the shapes are not as described, or missing, this is cause to fail this test.

Scene 32: <2K|4K[-48fps]-scopelflatlfull>-ruby-offset-test

The pair of labels with the text ‘Offset=”-1”’ are not expected to be exactly aligned and may vary according to the implementation. The objective of the test is to show that an offset value of -1 causes the pair to be closer than a bigger number.

- If the size of both labels in all the pairs is not equal, this is cause to fail this test.
- If the vertical offset between the four pairs of rendered text labels is not greatest on the left and least on the right, this is cause to fail this test.
- If the vertical offset between the pair of labels ‘Default Offset (0)’ and ‘Offset=”0”’ is not equal, this is cause to fail this test. Note: The parentheses descend below the baseline of the remainder of the characters, which can cause the text to be further apart in this instance.

Scene 33: <2K|4K[-48fps]-scopelflatlfull>-ruby-spacing-test

The pair of circles with the label ‘Spacing=”-1”’ are not expected to be exactly aligned and may vary according to the implementation. The objective of the test is to show that an offset value of -1 causes the pair to be closer than a bigger number.

- If the horizontal spacing between the four pairs of same colored circles is not greatest on the left and least on the right, this is cause to fail this test.
- If the horizontal spacing between the pair of green circles and the pair of blue circles is not equal, this is cause to fail this test.

Scene 34: <2K|4K[-48fps]-scopelflatlfull>-ruby-cumulative-spacing-test

- If the spacing between the circles in each colored set is not equal, this is cause to fail this test.

Scene 35: <2K|4K[-48fps]-scopelflatlfull>-image-main-picture-equivalency

- If the size of the two apples is not equal, this is cause to fail this test.
- Differences in saturation, hue, luminance and bit-depth between the two images should be noted in the test results, and brought to the attention of the manufacturer. At this time, the Test Subject shall not be subject to failing this test because of such differences.

Scene 36: <2K|4K[-48fps]-scopeflat|full>-image-positioning

Three PNG images, with associated descriptive text, will fade in, then fade out, in sequence during this scene. Each image is an exact third, horizontally, of the scope aspect-ratio. Note that the images, as displayed in the flat aspect-ratio variant, will be slightly larger than one third of the screen width, and will not fill the screen vertically in both the flat, and full, aspect-ratio variants (the images will have their top edge aligned with the top edge of the main picture).

- If the location of any image does not match the descriptive text, this is cause to fail this test.
- If any image, or associated descriptive text does not appear when expected, this is cause to fail this test.
- If any image, or associated descriptive text does not fade in, and fade out, when expected, this is cause to fail this test.
- If the size of any image does not meet the description above, this is cause to fail this test.

Scene 37: <2K|4K[-48fps]-scopeflat|full>-image-to-image-transition-test-1-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 38: <2K|4K[-48fps]-scopeflat|full>-image-to-image-transition-test-1

A single PNG image will fill the entire screen horizontally for the first half of this scene. For the second half of the scene, the single image will be replaced by two half horizontal screen images, positioned as to be equivalent to their locations on the single image. All FadeDownTime and FadeUpTime elements are set to 00:00:00:00 which will result in a seamless transition between the subtitle instances.

- If the image displayed on the screen flickers, or any part of the image is not displayed, this is cause to fail this test.

Scene 39: <2K|4K[-48fps]-scopeflat|full>-image-image-text-transparency-test-1-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 40: <2K|4K[-48fps]-scopeflat|full>-image-image-text-transparency-test-1

This scene will display a PNG image of a seascape overlaid with a PNG image of a square yellow frame with a transparent background. Inside the yellow frame will be the rendered text "Digital Cinema", in purple.

- If the seascape, square frame, or rendered text is missing, this is cause to fail this test.
- If the seascape is not visible through both the square frame and the rendered text, this is cause to fail this test.

Scene 41: <2K|4K[-48fps]-scopeflat|full>-image-image-image-transparency-test-1-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 42: <2K|4K[-48fps]-scopeflat|full>-image-image-image-transparency-test-1

This scene will display a PNG image of a seascape overlaid with a PNG image of a square yellow frame with a transparent background. Inside the yellow frame is overlaid a PNG image of a smaller, rectangular purple frame and the text "Digital Cinema", in purple, and a transparent background.

- If the seascape, square frame, smaller rectangular frame, or PNG text are missing, this is cause to fail this test.
- If the seascape is not visible through both the square frame, the rectangular frame, and the text, this is cause to fail this test.

Scene 43: <2K|4K[-48fps]-scopeflat|full>-image-image-text-transparency-test-2-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 44: <2K|4K[-48fps]-scopelflat|full>-image-image-text-transparency-test-2

This scene will display a PNG image of a seascape overlaid with rendered text. Overlaid over the text, is a PNG image of a rose that has a transparent background. The rose will completely cover the rendered text.

- If the seascape, or the rose, are missing, this is cause to fail this test.
- If the seascape is not visible up to the edges of the rose, this is cause to fail this test.
- If any text is visible, other than the scene label in the flat and full variants, this is cause to fail this test.

Scene 45: <2K|4K[-48fps]-scopelflat|full>-image-transparency-test-1

This scene will display a green background in the main picture. Overlaid in the center, is a PNG image of a house that has transparent windows.

- If a house is not displayed in the center of the green background, this is cause to fail this test.
- If the green background is not visible through the windows of the house, this is cause to fail this test.

Scene 46: <2K|4K[-48fps]-scopelflat|full>-multi-image-multi-text-test-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 47: <2K|4K[-48fps]-scopelflat|full>-multi-image-multi-text-test

In the first half of this scene, PNG images of a house and rose, each with descriptive text overlaid, will fade in. Halfway through the scene, PNG images of an apple and a lamp, each with descriptive text, will fade in, for a total of four PNG images and four descriptive text overlays.

- If the PNG images of the house and rose, with their respective text overlays, do not appear during the first half of the scene, and do not remain on screen after their appearance, for the remainder of the scene, this is cause to fail this test.
- If the PNG images of the apple and lamp, with their respective text overlays, do not appear on screen during the second half of the scene, this is cause to fail this test.
- Per the provisions of section 6.1.6 in SMPTE ST 428-7:2014, in cases where two subtitle instances have overlapping time windows, the values of `FadeUpTime` and `FadeDownTime` elements, or their defaults, may be considered to be equal to zero. If any of the fades specified in the XML are rendered as if they were zero, this shall not be cause to fail this test.

Scene 48: <2K|4K[-48fps]-scopelflat|full>-image-rose-flicker-test-announce

- If rendered text, describing the following scene, is not displayed, this is cause to fail this test.

Scene 49: <2K|4K[-48fps]-scopelflat|full>-image-rose-flicker-test

- If a rose does not appear near the center of the screen, this is cause to fail this test.
- If the rose flickers, disappears, or exhibits any other dynamic visual artifacts, this is cause to fail this test.

Scene 50: <2K|4K[-48fps]-scopelflat|full>-text-flicker-test

- If text inside the bounding box does not appear on the screen, this is cause to fail this test.
- If the text flickers, disappears, or exhibits any other dynamic visual artifacts, this is cause to fail this test.

Scene 51: <2K|4K[-48fps]-scopelflat|full>-text-direction-test-1

This scene is for informational data only. Describe the appearance of the rendered text elements displayed on the screen.

Scene 52: <2K|4K[-48fps]-scope|flat|full>-text-direction-test-2

This scene is for informational data only. Describe the appearance of the rendered text elements displayed on the screen.

Scene 53: <2K|4K[-48fps]-scope|flat|full>-text-direction-test-3

This scene is for informational data only. Describe the appearance of the rendered text elements displayed on the screen.

Scene 54: <2K|4K[-48fps]-scope|flat|full>-text-valign-direction-test-1

This scene is for informational data only. Describe the appearance of the rendered text elements displayed on the screen.

Scene 55: <2K|4K[-48fps]-scope|flat|full>-end-title

- If the rendered text does not appear on the screen, this is cause to fail this test.