

100/AGS592

# SMPTE D-Cinema & UHD Status Report

IEC TC 100  
AGS Tokyo meeting

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## Recent Topics on D-Cinema

- **Auxiliary data file**
  - Specify a new MXF data file for auxiliary data that is not carried using the existing Sound, Picture, and Subtitle track files in a SMPTE Digital Cinema Package
  - The document (ST 429-14) has been published
- **Aux Data Synchronization & Transfer protocol**
  - Specify the transmission and synchronization of Aux Data file defined in ST 429-14 from a D-Cinema Media Block to downstream processors
  - The work underway

## Documents in Publication Cycle on D-Cinema

| Suite                                   | Number                  | Title  |
|---|-------------------------|--|
| DCDM<br>D-Cinema<br>Distribution Master | Revision of<br>ST 428-7 | DCDM – Subtitle  |
| DCP<br>D-Cinema Packaging               | ST 429-14               | DCP - Aux Data Track File                              |
|   | ST 429-16               | DCP – CPL(Composition Play List)<br>Metadata Extension |

Note) ST xxx: SMPTE standard

## Standardization Work related to 4K/UHDTV

- Report from UHDTV Eco system Study Group has been published
  - Provide recommendations for future standardization work
- Addition of 120/1.001Hz and 100Hz to UHDTV image format (SMPTE ST 2036-1)
- 4K/UHDTV Interface Standardization
  - Multi-link 3G-SDI completed
  - 6G/12G-SDI ongoing, 24G-SDI planned
  - Multi-link 10G optical SDI ongoing
- Study Group on conversion between integer frame rate (120Hz) and fractional frame rate (120/1.001Hz)
- UHDTV test signal (Color bar)

## Multi-link 3G-SDI

| Doc. No. | Summary   | Status               |
|----------|---|----------------------|
| ST 425-1 | Single-link 3G-SDI  | Amendment completed  |
| ST 425-2 | Single-link 3G-SDI<br>3D for 1080i/720p                       | Published            |
| ST 425-3 | Dual-link 3G-SDI<br>1080,2K/4:4:4/60p,<br>4K/UHDTV1/4:2:2/30p | Amendment in process |
| ST 425-4 | Dual-link 3G-SDI<br>3D for ST 425-1                           | Published            |
| ST 425-5 | Quad-link 3G-SDI<br>4K/UHDTV1/4:4:4/30p, 4:2:2/60p            | Amendment in process |
| ST 425-6 | Quad-link 3G-SDI<br>3D for ST 425-3                           | Published            |

## Proposed Multi-link 6G-SDI

| Doc. No.                        | Summary   | Status     |
|---------------------------------|---|------------|
| ST 2081-1                       | 6G-SDI Physical layer – Electrical                                      | In process |
| ST 2081-2<br>=> ST 297 revision | 6G-SDI Physical layer – Optical   | In process |
| ST 2081-10                      | Single-link 6G-SDI mapping<br>1080,2K/4:4:4/60p,<br>4K,UHDTV1/4:2:2/30p | In process |
| ST 2081-11                      | Dual-link 6G-SDI mapping<br>4K/UHDTV1/4:4:4/30p, 4:2:2/60p              |            |
| ST 2081-12                      | Quad-link 6G-SDI mapping  |            |

## Proposed Multi-link 12G-SDI

| Doc. No.                        | Summary   | Status     |
|---------------------------------|---|------------|
| ST 2082-1                       | 12G-SDI Physical layer – Electrical   | In process |
| ST 2082-2<br>=> ST 297 revision | 12G-SDI Physical layer – Optical  | In process |
| ST 2082-10                      | Single-link 12G-SDI mapping<br>4K/UHDTV1/4:4:4/30p, 4:2:2/60p                                 | In process |
| ST 2082-11                      | Dual-link 12G-SDI mapping<br>4K/UHDTV1/4:4:4/60p,<br>4K/UHDTV1/4:2:2/HFR,<br>UHDTV2/4:2:2/30p |            |
| ST 2082-12                      | Quad-link 12G-SDI mapping   |            |

## Proposed Multi-link 10G-SDI for UHDTV

| Doc. No.  | Summary   | Status                 |
|-----------|---|------------------------|
| ST 2036-3 | Existing SDI mapping using 10-bit payload<br><br>Scope has been limited to up to<br>UHDTV1/60Hz in the ongoing revision | Revision<br>in process |
| ST 2036-4 | New mapping using 12-bit payload<br><br>UHDTV1/100Hz/120Hz,<br>UHDTV2/24Hz~120Hz  | In process             |