ACCESSIBILITY IN CINEMA

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Cinema’s History With Accessibility

(Summation in Audio Processor)
Digital Sound on Film in the 90’s

- Sony SDDS
- Dolby Digital
- DTS Time Code
- Analog Sound
DTS Introduced the Narrative Track and MoPix Closed Captions
Digital Cinema – An Open Approach

- Competitive Digital Cinema Players
- Visually Impaired Narrative (VI-N)
- Hearing Impaired (HI)
- Competitive Closed Caption Systems
Path Forward

- Uniform content
- Open connectivity
Identifying the Work

- Audio channel assignments
- Closed Caption constraints using the Subtitle Asset file
- Composition Playlist (CPL)
### Table A.1 – Channel Configuration 1

<table>
<thead>
<tr>
<th>Container Channel</th>
<th>SMPTE 428-3 label</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>R</td>
</tr>
<tr>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>4</td>
<td>LFE</td>
</tr>
<tr>
<td>5</td>
<td>Ls</td>
</tr>
<tr>
<td>6</td>
<td>Rs</td>
</tr>
<tr>
<td>7</td>
<td>HI</td>
</tr>
<tr>
<td>8</td>
<td>VI-N</td>
</tr>
</tbody>
</table>

(One of several tables, each describing an audio format.)
CPL Extensions: S429-12

- Defines 3 new asset types:
  - ClosedCaption
  - ClosedSubtitle
  - MainCaption
Subtitle Constraints: S428-10

- Constrains S428-7 Subtitle
  - No Image element
  - Max of 3 Text Elements
  - Repurposes Vposition
CSP / RPL: Open Connectivity

- Digital Cinema Server
- 3rd Party Closed Caption System

CSP / RPL
CSP: S430-10

- Content Synchronization Protocol
  - Control Protocol
  - Synchronization

SMPTE STANDARD
D-Cinema Operations – Auxiliary Content Synchronization Protocol
RPL: S430-11

- **Resource Presentation List**
  - XML list of resources to be played
  - Pulled from the CPL
Summary

- **Uniform Distribution**
  - S429-2 Annex A places HI and VI-N channels
  - S429-12 defines accessible asset types
  - S428-10 constrains Subtitles for the Closed Caption application

- **Open Connectivity**
  - S430-10 Aux Content Synchronization Protocol
  - S430-11 Aux Resource Presentation List
The Result
Thank You

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