Report of SMPTE Task Force on 3D to the Home

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3D Task Force Mission

• What standards are needed?
  – for rapid adoption of stereoscopic content
  – from mastering to consumption in the home on a fixed home display
  – via multiple types of distribution channels
• What standards should be written by SMPTE?
• Liaison with other bodies to ensure other needed standards are written
3D End-to-End Value Chain

3D TF Scope: Home Master requirements with consideration from content creation, distribution and display
Specific Tasks

• Defines the issues and challenges related to 3D distribution for the home market
• Defines minimum requirements needed to overcome the issues and challenges
• Defines the minimum set of standards that would need to be written to provide sufficient interoperability
• Defines evaluation criteria
3D TF Activity

• Formed in August 2008
• 200+ members from 13 countries
  – well represented by the industry
• Monthly face-to-face meetings
• Weekly teleconferences
• Liaison with ATSC, DVB, ITU-R, MPEG, CEA and other industry forums
• All assignments were completed on schedule and the final report was released in March 2009
Key Components of Report

• Definition of 3D Home Master
• End-to-end system diagram
• 3D terminology
• Use cases
• 3D Home Master requirements
• Issues and challenges
• Recommendations
• References
3D Terminology

• Ensure discussions and documents within the SMPTE 3D TF remain coherent
• Total 80 terminologies in four categories
  – Display types
  – Image format representations
  – Basic concepts
  – Use case terms
Definition of 3D Home Master

- Uncompressed and unencrypted image format or file package derived from a 3D Source Master
- Intended to be used in the creation of 3D distribution data
Use Cases

• Inputs from cable, DTH, Studios, broadcasters, manufacturers
• Define priority and relevance to the 3D Home Master
• 90 use cases
  – in home television viewing
  – interoperability among devices
  – viewing of broadcast content
  – viewing of content on physical media
  – digital distribution
  – viewing on mobile devices
3D Home Master Requirements

- Image content
- Audio synchronization
- Graphical overlays
- Subtitles
- Closed captions
- Backward compatibility with 2D
- 3D metadata
- Ancillary metadata
- Evaluation criteria
Issues and Challenges

• Evolving display technology
• Future distribution channels
• Production and authoring techniques and needs
• Unexplored psychophysical characteristics of the Human Visual System
Recommendations

• Standardize 3D Home Master based on the requirements developed by the TF
• Establish liaisons with other relevant Standards Development Organizations
• Study and investigate solutions to the issues and challenges listed in TF report
• Embark on a review of how 3D content to the home affects the body of SMPTE publications
Next Step

• Report serves as basis to
  – Commence SMPTE standards development in June 2009
    • content format specifications
    • possible packaging specifications for distribution
  – Commence other relevant studies as timing may dictate
• Report has been sent to other interested SDOs
To purchase the TF report:
http://store.smpte.org/product-p/tf3d.htm

To download the TF report:
SMPTE website/Member Area/Standards Community (member-only)
Thank You

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