NEXT-GENERATION AUDIO

MPEG-H AUDIO
The new Standard for Personalized and Immersive Audio

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Harald Fuchs, 25.10.2016

New Features of Next Generation Audio (NGA) Systems

Interactivity

Personalization of audio presentation

- Adaptation to the user's preferences and situation
- Turn the dialogue up or down
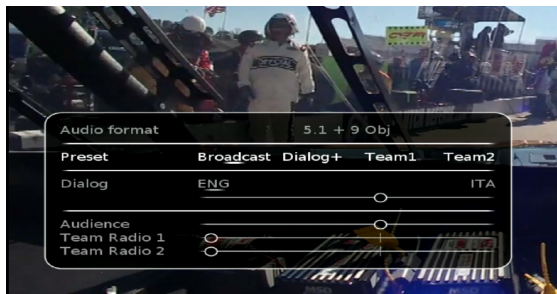- Select your own version of the audio

Immersion

Compelling sound experience through sound that comes from all directions

- A viewer becomes part of the audience
- Delivered to main stream consumers, not just enthusiasts

Universal Delivery

Play on any device with delivering best possible sound experience

- Home Theater
- Soundbars
- Mobile devices
- Headsets

April 2015 NAB Show Demonstration

3D Soundbar Reference Design

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New Features of NGA Systems
Flexible content delivery enables personalization

- The Audio Program is not delivered as one final mix

- Instead, separate Audio Components (Elements) are delivered

- Metadata to control the elements

    - Enabling interactivity and personalization

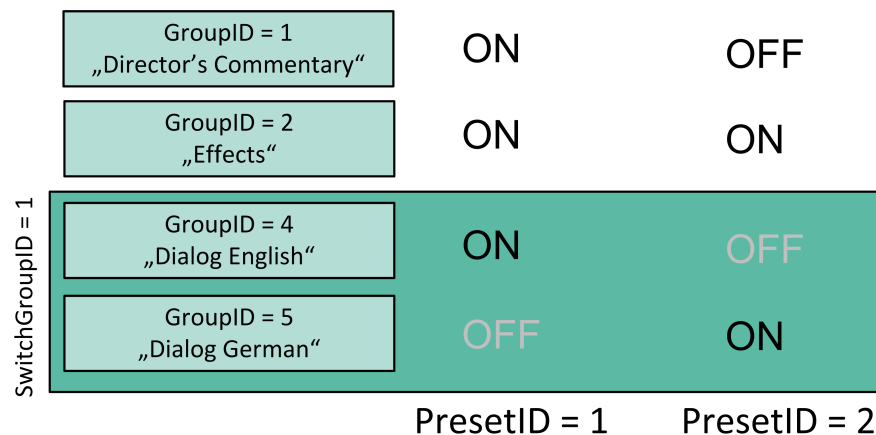   - Describes the elements, restricts the interactivity options

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New Features of NGA Systems
Flexible content delivery enables personalization

Available Audio Preselections (Signaling Info.)	Audio Programme Components				
	M&E	Dialogue EN	Dialogue DE	AD EN	Team Radio
Default Preselection (English)	**M&E**	**Dialogue EN**	Dialogue DE	AD EN	Team Radio
German Preselection	**M&E**	Dialogue EN	**Dialogue DE**	AD EN	Team Radio
English Audio Description Preselection	**M&E**	**Dialogue EN**	Dialogue DE	**AD EN**	Team Radio
English Team Radio Preselection	**M&E**	Dialogue EN	Dialogue DE	AD EN	**Team Radio**
M&E Only Preselection	**M&E**	Dialogue EN	Dialogue DE	AD EN	Team Radio

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Personalization and Interactivity
Preselections

- Enable an easy user interface

- Allow broadcaster control of different presentations of the same content

- Preselections are a combination Audio Components

	PresetID = 1	PresetID = 2
GroupID = 1 „Director's Commentary"	ON	OFF
GroupID = 2 „Effects"	ON	ON
GroupID = 4 „Dialog English"	ON	OFF
GroupID = 5 „Dialog German"	OFF	ON

SwitchGroupID = 1

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MPEG-H Audio
Standardization

- MPEG
  - Version 1 finalized in February 2015
  - Amendment 3 finalized in June 2016
- DVB
  - MPEG-H in next revision of TM 101154, expected end of 2016
  - NGA and MPEG-H signaling in DVB-SI (published Oct. 2016)
- ATSC 3.0
  - MPEG-H in Candidate Standard A/342-3, May 2016
- Korea/TTA
  - MPEG-H Audio LC is the audio standard for terrestrial UHDTV

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