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AHG 4

**Interlace coding on ATM 7.2
(just a report for the already released software)**

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Issues with ATM V7.1 interlace encoding

- Field coding not allowed
- Field based structure or variables are marked off
- Some field coding source code is eliminated
- Original field coding source code needs modifications for depth
- Reference List and reordering issues
- GOP issues with class A
- No support for different setting of texture and depth
- Write out order issues



Issues with ATM V7.1 interlace decoding

- Some field coding source code is eliminated
- Original field coding source code needs modifications for depth
- No support for different setting of texture and depth



ITRI's current solution -1

- Field coding not allowed
 - Reinstall and modify source code for field coding
- Field based structure or variables are marked off
 - Re-install with appropriate content or values
- Some field coding source code is eliminated
 - Fill in code based on JM17.2
- Original field coding source code needs modifications for depth
 - perform modifications as needed
- Reference list and reordering
 - Use JM's reference lists instead of ATM's interview lists
 - Not allow reference list reordering for field coding (refer to JM manual)
- GOP setting
 - 4 for class A
 - 8 for class C



ITRI's current solution -2

- No support for different setting of texture and depth
 - Perform modifications for field coding
- Write out order issues
 - Write out order is fixed: T0D0T1D1
- Add four encoding configuration files designated for interlace coding mode
 - configs\3dv_enc_25Hz_depth_interlace_HP.cfg
 - configs\3dv_enc_25Hz_texture_interlace_HP.cfg
 - configs\3dv_enc_30Hz_depth_interlace_HP.cfg
 - configs\3dv_enc_30Hz_texture_interlace_HP.cfg

It has been cross checked and released as ATM 7.2



ATM 7.2 supports following cases of encoding and decoding

- Case 1: coding progressive video with progressive depth map for MVC+D
- Case 2: coding stereoscopic interlace video with interlace depth map for MVC+D
- Case 3: coding stereoscopic interlace video with progressive depth map for MVC+D
- Case 4: coding progressive video with progressive depth map for 3D-AVC



Configurations set by ITRI

- Class A sequences

- Texture

- ProfileIDC = 128
- LevelIDC = 41
- NumberReferenceFrames = 2
- NumberOfViews=2
- 3DVCodingOrder="T0D0D1T1"
- NumberBFrames = 3
- ExplicitHierarchyFormat = "B1r5t1B0e6t2B2e6t2"
- ReferenceReorder = 0
- PicInterlace = 1
- WPMMethod = 0
- QP =26

- depth

- ProfileIDC=138
- LevelIDC = 41
- NumberReferenceFrames = 2
- NumberOfViews=2
- ReferenceReorder = 0
- PicInterlace = 1
- DepthRangeBasedWP = 0
- WPMMethod = 0
- QP =26

Including GT_Fly



Configurations set by ITRI

- Class C sequences

- Texture

- ProfileIDC = 128
- LevelIDC = 41
- NumberReferenceFrames = 2
- NumberOfViews=2
- 3DVCodingOrder="T0D0D1T1"
- NumberBFrames = 7
- ExplicitHierarchyFormat =
"B3r4t1B1r5t2B0e6t3B2e6t3B5r
5t2B4e6t3B6e6t3"
- ReferenceReorder = 0
- PicInterlace = 1
- WPMMethod = 0
- QP =26

- Depth

- ProfileIDC = 138
- LevelIDC = 41
- NumberReferenceFrames = 2
- NumberOfViews=2
- ReferenceReorder = 0
- PicInterlace = 1
- DepthRangeBasedWP = 0
- WPMMethod = 0
- QP =26



Future Work and Acknowledgment

- Future Work
 - New Observation
 - Cross Platform issues with class A sequences inherited from JM
 - » This issues already exists in JM interlace coding
- Acknowledgment
 - Thanks Nokia and Poznan University for cross check



End of Report