

**Joint Video Experts Team (JVET)
of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC
29/WG 11**

Document: JVET-AG0107

MPEG: m66002

33rd Meeting, by teleconference, 17-26 January 2024

Title: AHG9: On phase indication SEI message

Status: Input document to JVET

Purpose: Proposal

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Source: Sharp, KDDI

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Abstract

VVC can change the picture resolution in a sequence by using RPR; however, most video applications display decoded pictures with a constant resolution, even with decoded resolution changes dynamically. When the same phase information for the resampling process of RPR is not identified between the transmitting and receiving sides, pixels of the picture may shift in time when the resolution changes dynamically in the sequence. To avoid this phenomenon, the phase indication SEI message has been adopted in VSEI to share the phase information between the transmitting and receiving sides. The remaining problem is that the bitstreams, defined as the phase information implicitly but without the SEI, are not interoperable. This contribution proposes the following:

The phase indication SEI message is moved to the VVC text, which is made as a normative SEI message.

Syntax elements of the phase indication SEI message have the inferred values. Their values mean the co-sited positions. Then, even if there is no phase indication SEI message in the bitstream, the phase information is defined.

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LINKS

CARD

JVET-AG0107

<http://vexpertise.stbit.ru/documents/JVET-AG0107>

The image shows a screenshot of the JVIET Search web application. At the top left, the text "JVIET Search" is displayed in blue. Below this is a search bar with a magnifying glass icon. To the right of the search bar are three buttons: "Takashi Chujo", "Tomohiro Imai", and "K. Kawamura". Below these buttons, the search results are displayed. The first result is "AHG9: On phase indication SEI message" in bold black text. Below this title, the authors "Authors:" are listed. The next section is "ABSTRACT" in blue text, followed by a large light blue rectangular area representing the abstract content. Below this is "MEETING NOTES" in blue text, followed by another large light blue rectangular area representing the meeting notes content. In the bottom right corner, there is a QR code.

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Preview document JVET-AG0107

Document Information

Submitted by

John Roberts (Jen)

Title

PH20: On phase indication SDI message

Authors

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Document

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Associated Resources

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MEETING NOTES

external meeting notes

http://vexpertise.stbit.ru/meeting-notes/source/meeting_33_ag

  	Joint Video Experts Team (JVET) of ITU-T SG21 WP3/21 and ISO/IEC JTC 1/SC 29 33rd Meeting: by teleconference, CH, January 202	Document: JVET-AG0107
Title:	Meeting Report of the 41st Meeting of the Joint Video Experts Team	
Status:	Report document from the chair of JVET	
Purpose:	Report	
1 Summary		
		

MEETING NOTES

[JVET-AG0107](#) AHG9: On phase indication SEI message [T. Chujoh, T. Ikai (Sharp), K. Kawamura (KDDI)]

VVC can change the picture resolution in a sequence by using RPR; however, most video applications display decoded pictures with a constant resolution, even with decoded resolution changes dynamically. When the same phase information for the resampling process of RPR is not identified between the transmitting and receiving sides, pixels of the picture may shift in time when the resolution changes dynamically in the sequence. To avoid this phenomenon, the phase indication SEI message has been adopted in VSEI to share the phase information between the transmitting and receiving sides. The remaining problem is that the bitstreams, defined as the phase information implicitly but without the SEI, are not interoperable. This contribution proposes the following:

- The phase indication SEI message is moved to the VVC text, which is made as a normative SEI message.
- Syntax elements of the phase indication SEI message have the inferred values. Their values mean the co-sited positions. Then, even if there is no phase indication SEI message in the bitstream, the phase information is defined.

These proposals do not change the conformance bitstreams and the reference software.

It was commented that it does not make a difference whether something is in VSEI or VVC. It was further commented that VUI may be a better place. It also seems to be more a display issue which is out of scope of our standards.

It was asked why the co-sited position should be defined as default when the SEI is not present? It would still have the undesired effect when the downsampler generates a different position. However, it might be assumed that an implement would use a downsampler that matches the inferred value when no SEI is present. This could be augmented with an informative note for the downsampler in case of RPR.

It was asked how serious the problem is? For some sequences, it may not even be visible. Further, other effects such as loss of structure is happening at the switching point.

Further study was recommended on the possibility of defining a default phase position when the SEI message is not present, and adding an informative remark about what an encoder should do.

CITATION

T. Chujoh, T. Ikai, K. Kawamura, "AHG9: On phase indication SEI message", JVET-AG0107, 33rd Meeting: by teleconference, CH, January 2024.