

ISO/IEC 14496-15:2024(E)/FDAmD 1

ISO/IEC JTC-1/SC-29/AWG-9

Secretariat: JISC

Date: 2024-05-10-21

Information technology — Coding of audio-visual objects —

Part 15:  
Carriage of network abstraction layer (NAL) unit structured video  
in the ISO base media file format — Amendment

AMENDMENT 1: Support for neural-network post-filter supplemental  
enhancement information and other improvements

~~FDAM~~FDIS stage

© ISO #### - All rights reserved

Edited DIS - MUST BE USED FOR FINAL DRAFT

[ISO/IEC 14496-15/FDAmD 1\(en\)](#)

© ISO/IEC 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

[ISO/IEC 14496-15:2024/Amd 1](#)

<https://standards.iteh.ai/catalog/standards/iso/7ac13601-b550-408c-904c-df25b1e0f01f/iso-iec-14496-15-2024-amd-1>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives) and [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

Field Code Changed

ISO and IEC draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO and IEC take no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO and IEC had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents) and <https://patents.iec.ch>. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

Field Code Changed

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 14496 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

Field Code Changed



## Information technology — Coding of audio-visual objects — ~~—~~ —

### Part 15:

### Carriage of network abstraction layer (NAL) unit structured video in the ISO base media file format — ~~Amendment 3~~

### **AMENDMENT 1: Support for neural-network post-filter supplemental enhancement information and other improvements**

#### ~~Clause 2~~

Add the following normative references:

ISO/IEC 15938-17, *Information technology — Multimedia content description interface — Part 17: Compression of neural networks for multimedia content description and analysis*

ISO/IEC 23002-7, *Information technology — MPEG video technologies — Part 7: Versatile supplemental enhancement information messages for coded video bitstreams*

#### ~~4.10~~

Replace the content with the following:

#### **4.10 SEI information box**

##### **4.10.1 Definition**

Box Type: 'sei'

Container: SchemeInformationBox('schi') or VisualSampleEntry

Mandatory: Yes (in the SchemeInformationBox), no (in a VisualSampleEntry)

Quantity: One (in the SchemeInformationBox), zero or one (in a VisualSampleEntry)

The `SeiInformationBox` documents SEI messages in a bitstream. When contained in a `VisualSampleEntry`, `numRequiredSEIs` shall be 0. By inspecting the `SeiInformationBox` a player will know which SEI messages it can assume to be present, and which are deemed necessary by the file author for correct playback. There might be other SEI messages present in the bitstream that are not documented by this box.

NOTE Writers can list non-required SEI messages in the `SeiInformationBox` included directly in the sample entry and required SEI messages in the `SeiInformationBox` in the `SchemeInformationBox` of the same track.

The SEI messages listed in the `SeiInformationBox` should be stored either in the bitstream or in the configuration record within the untransformed sample entry. The `SeiInformationBox` does not contain the actual SEI messages, it only lists those that occur in the bitstream.

##### **4.10.2 Syntax**

## ISO/IEC 14496-15/FDAmD 1(en)

```
aligned(8) class SeiInformationBox extends Box('seii') {
    unsigned int(16) numRequiredSEIs;
    for (i = 0; i < numRequiredSEIs; i++) {
        unsigned int(16) requiredSEI_ID;
    }
    unsigned int(16) numNotRequiredSEIs;
    for (i = 0; i < numNotRequiredSEIs; i++) {
        unsigned int(16) notrequiredSEI_ID;
    }
}
```

### **4.10.3 Semantics**

- `requiredSEI_ID` takes on the value “payloadType” of an SEI message present in the bitstream that is deemed necessary by the file author for correct playback.
- `notrequiredSEI_ID` takes on the value “payloadType” of an SEI message present in the bitstream that is not deemed necessary by the file author for correct playback.

## 4.11

Replace the content with the following:

### **4.11 Post-decoder requirements scheme for signalling of SEI**

#### **4.11.1 General**

In order to handle situations where the file author requires certain actions on the player or renderer, the ISO base media file format specifies the restricted-video mechanism where untransformed sample entries are hidden behind the sample entry type 'resv'. Subclause 4.11.2 uses the restricted-video mechanism to specify a scheme for post-decoder requirements for handling SEI messages that is identified by the 'aSEI' scheme type. The mechanism specified in subclause 4.11.2 applies to all coding systems identified in this document. For the case of signalling of SEI messages, a file author can list occurring SEI message payload type values and classify them into two categories: those that are deemed required by the file author for correct playback, and others. The occurrence of either type of SEI messages can be signalled in the `SeiInformationBox`.

Many of the applicable video coding standards define an SEI manifest SEI message, which can be used to indicate SEI message payload types that are considered necessary. When the processing of a particular SEI message payload type is considered as essential for consuming the content of a track, the following applies:

- When the untransformed sample entry type does not impose a player to process SEI manifest SEI messages, the file writer shall use a restricted video track with the 'aSEI' scheme type and include that particular SEI message payload type as `requiredSEI_ID` in `SeiInformationBox`.
- When the untransformed sample entry type imposes a player to process SEI manifest SEI messages, the file writer shall include, in the sample entry, an SEI manifest SEI message where that particular SEI message payload type is indicated to be necessary.
- It is allowed to include both an SEI manifest SEI message in the sample entry and an `SeiInformationBox` for the same sample entry, provided that both declare the same SEI message payload types consistently.

#### **4.11.2 Definition**