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**Information technology — Coding of  
audio-visual objects —**

**Part 2:  
Visual**

**AMENDMENT 5: Simple studio profile  
levels 5 and 6**

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*Technologies de l'information — Codage des objets audiovisuels —*

*ISO/IEC 14496-2:2004/Amd.5:2009*

*Partie 2: Codage visuel*

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*AMENDEMENT 5: Niveaux 5 et 6 de profil de studio simple*

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## 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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 5 to ISO/IEC 14496-2:2004 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This Amendment specifies two new Levels for the ISO/IEC 14496-2 Simple Studio Profile: Levels 5 and 6. These levels define increased capabilities of VMV size, VCV buffer size, VCV decoder rate, VBV buffer size, and bit rate for the Simple Studio Profile. In particular, Level 5 provides support for typical visual session sizes of 4Kx2K@24p/30p in rectangular-VOP luminance sample units. Level 6 provides support for typical visual session sizes of 4Kx2K@60p in rectangular-VOP luminance sample units.

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# Information technology — Coding of audio-visual objects —

## Part 2: Visual

### AMENDMENT 5: Simple studio profile levels 5 and 6

In 5.2.9, replace:

while ( nextbits() != '0000 0000 0000 0000 0000 0001' )		
---	--	--

with:

while ( next_bits() != '0000 0000 0000 0000 0000 0001' )		
--	--	--

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In 6.2.8.14, replace:

while (nextbits() == texture_shape_layer_start_code) {		
--	--	--

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with:

while (next_bits() == texture_shape_layer_start_code) {		
---	--	--

In 6.2.13.2.1, replace:

else if ( nextbits() == "VLC Code Extension ID" )		
---	--	--

with:

else if ( next_bits() == "VLC Code Extension ID" )		
--	--	--

In 6.2.13.2.1, replace:

if ( nextbits() == "Quant Matrix Extension ID" )		
--	--	--

with:

if ( next_bits() == "Quant Matrix Extension ID" )		
---	--	--

In 6.2.13.2.1, replace:

else if ( nextbits() == "Copyright Extension ID" )		
--	--	--

with:

else if ( next_bits() == "Copyright Extension ID" )		
---	--	--

In 6.2.13.2.1, replace:

else if ( nextbits() == "Picture Display Extension ID" )		
--	--	--

with:

else if ( next_bits() == "Picture Display Extension ID" )		
---	--	--

In 6.2.13.2.1, replace:

else if( nextbits() == "Camera Prameters Extension ID" )		
--	--	--

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with:

else if( next_bits() == "Camera Parameters Extension ID" )		
--	--	--

<https://standards.iteh.ai/catalog/standards/sist/2a12c3e1-5cba-4920-b7eb-038d5cc769e1/iso-iec-14496-2-2004-amd-5-2009>

In 6.2.13.2.1, replace:

else if ( nextbits() == "ITU-T Extension ID" )		
--	--	--

with:

else if ( next_bits() == "ITU-T Extension ID" )		
---	--	--

In 6.2.13.2.1, replace:

else if ( nextbits() == "VLC Code Extension ID" )		
---	--	--

with:

else if ( next_bits() == "VLC Code Extension ID" )		
--	--	--

In 6.2.13.2.8, replace:

while ( nextbits() != '0000 0000 0000 0000 0000 0001' ) {		
---	--	--

with:

while ( next_bits() != '0000 0000 0000 0000 0000 0001' ) {		
--	--	--

In 6.2.13.5, replace:

while ( nextbits() == '1' ) {		
-------------------------------	--	--

with:

while ( next_bits() == '1' ) {		
--------------------------------	--	--

In 6.2.13.5, replace:

} while ( nextbits() == slice_start_code)		
---	--	--

with:

} while ( next_bits() == slice_start_code)		
--	--	--

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In 6.2.13.7, replace:

<b>macroblock_number</b>	1-14	vlclbf
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with:

<b>macroblock_number</b>	1-16	vlclbf
--------------------------	------	--------

In 6.2.13.7, replace:

if ( nextbits() == 1 ) {		
--------------------------	--	--

with:

if ( next_bits() == '1' ) {		
-----------------------------	--	--

In 6.2.13.7, replace:

while ( nextbits() == 1 ) {		
-----------------------------	--	--

with:

while ( next_bits() == '1' ) {		
--------------------------------	--	--

In 6.3.13.17, replace:

**macroblock\_number:** This is a variable length code with length between 1 and 14 bits. It identifies the macroblock number within a VOP. The number of the top-left macroblock in a VOP shall be zero. The macroblock number increases from left to right and from top to bottom. The actual length of the code depends on the total number of macroblocks in the VOP calculated according to Table 6-99, the code itself is a binary representation of the macroblock number.

with:

**macroblock\_number:** This is a variable length code with length between 1 and 16 bits. It identifies the macroblock number within a VOP. The value zero indicates the top-left macroblock in a VOP. The macroblock number increases from left to right and from top to bottom. The actual length of the code depends on the total number of macroblocks in the VOP calculated according to Table 6-99, the code itself is a binary representation of the macroblock number.

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In 6.3.13.17, add the following row at the bottom of Table 6-99:

16	<a href="https://standards.iteh.ai/catalog/standards/sist/2a12c3e1-5cba-4920-b7eb-038d5ec769e1/iso-iec-14496-2-2004-amd-5-2009">https://standards.iteh.ai/catalog/standards/sist/2a12c3e1-5cba-4920-b7eb-038d5ec769e1/iso-iec-14496-2-2004-amd-5-2009</a> ISO/IEC 14496-2:2004/Amd 5:2009 32769-65536
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In Table G.1, after the following row,

Core Studio Profile/Level 4	11101000
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Add the following rows:

Reserved	11101001 – 11101010
Simple Studio Profile/Level 5	11101011
Simple Studio Profile/Level 6	11101100

In Table G.1, replace:

Reserved	11101001 – 11101111
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with:

Reserved	11101101 – 11101111
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In Table N.3, add the following rows:

Simple Studio	L6	4Kx2Kx60P :444	12	1	1 x Simple Studio	5308 4160	53084 160	159252 4800	159252 4800	11520	11520	N.A	N.A	N.A	3600	N.A
Simple Studio	L5	4Kx2Kx24P :444 4Kx2Kx30P :444	12	1	1 x Simple Studio	2654 2080	26542 080	796262 400	796262 400	5760	5760	N.A	N.A	N.A	1800	N.A

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