



SLOVENSKI STANDARD
SIST ISO/IEC 13818-2:2005/oAmd 3:2010
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Informacijska tehnologija - Splošno kodiranje gibljivih slik in pripadajočih avdio informacij: Video
Dopolnilo 3: Novi nivo za 1080@50p/60p

Information technology - Generic coding of moving pictures and associated audio information: Video
AMENDMENT 3: New level for 1080@50p/60p

Technologies de l'information - Codage générique des images animées et du son associé: Données vidéo
AMENDEMENT 3: Nouveau niveau pour 1080@50p/60p

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35.040	Nabori znakov in kodiranje informacij	Character sets and information coding
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**Information technology — Generic coding
of moving pictures and associated audio
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New level for 1080@50p/60p**

*Technologies de l'information — Codage générique des images
animées et du son associé: Données vidéo —*

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Contents

	Page
1) Clause 8, Table 8-3	1
2) Clause 8.3 and Table 8-8	1
3) Clause 8.5, Table 8-11	3
4) Clause 8.5, Table 8-12	4
5) Clause 8.6, Table 8-13	5
6) Clause 8.6, Table 8-14	5
7) Clause 8.6, Table 8-15	6
8) Clause E.2, Table E.20	6
9) Clause E.2, Table E.25 <i>bis</i>	7

ISO/IEC 13818-2:2000/Amd.3:2010(E)**Foreword**

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INTERNATIONAL STANDARD
RECOMMENDATION ITU-TInformation technology – Generic coding of moving pictures and
associated audio information: Video

Amendment 3

New level for 1080@50p/60p

1) Clause 8, Table 8-3

In clause 8, replace Table 8-3 with:

Table 8-3 – Level identification

Level identification	Level
1011 to 1111	(Reserved)
1010	Low
1001	(Reserved)
1000	Main
0111	(Reserved)
0110	High 1440
0101	(Reserved)
0100	High
0011	(Reserved)
0010	HighP
0000 and 0001	(Reserved)

2) Clause 8.3 and Table 8-8

Replace clause 8.3 and Table 8-8 with:

8.3 Relationship between defined levels

The Low, Main, High-1440, High and HighP levels have a hierarchical relationship. Therefore the parameter constraints of a 'higher' level equal or exceed the constraints of 'lower' levels (e.g., for a given profile, a Main level decoder shall be able to decode a bitstream conforming to Low level restrictions). The order of hierarchy is given in Table 8-3.

The different parameter constraints for levels are given in Table 8-8.

Table 8-8 – Parameter constraints for levels

Syntactic Element	Level				
	Low	Main	High-1440	High	HighP
f_code[0][0] (forward horizontal)	[1:7]	[1:8]	[1:9]	[1:9]	[1:9]
f_code[1][0]^{a)} (backward horizontal)	[1:7]	[1:8]	[1:9]	[1:9]	[1:9]
frame_rate_code	[1:5]	[1:5]	[1:8]	[1:8]	[1:8]
picture_structure	'01', '10', '11'	'01', '10', '11'	'01', '10', '11'	'01', '10', '11'	'11'
frame_pred_frame_dct	[0:1]	[0:1]	[0:1]	[0:1]	1
Sample Density	Table 8-11				
Luminance Sample Rate	Table 8-12				
Maximum Bit Rate	Table 8-13				
Buffer Size	Table 8-14				
Frame picture					
f_code[0][1] (forward vertical)	[1:4]	[1:5]	[1:5]	[1:5]	[1:5]
f_code[1][1]^{a)} (backward vertical)	[1:4]	[1:5]	[1:5]	[1:5]	[1:5]
Vertical vector range ^{b)}	[-64:63,5]	[-128:127,5]	[-128:127,5]	[-128:127,5]	[-128:127,5]
Field picture					
f_code[0][1] (forward vertical)	[1:3]	[1:4]	[1:4]	[1:4]	NA ^{c)}
f_code[1][1]^{a)} (backward vertical)	[1:3]	[1:4]	[1:4]	[1:4]	NA ^{c)}
Vertical vector range ^{b)}	[-32:31,5]	[-64:63,5]	[-64:63,5]	[-64:63,5]	NA ^{c)}
a)	For Simple profile bitstreams which do not include B-pictures, f_code[1][0] and f_code[1][1] shall be set to 15 (not used).				
b)	This restriction applies to the final reconstructed motion vector. In the case of dual prime motion vectors, this restriction applies to all the following values: $\text{vector}'[0][0][1]$ $\frac{((\text{vector}'[0][0][1] * m[\text{parity_ref}][\text{parity_pred}]) // 2)}{((\text{vector}'[0][0][1] * m[\text{parity_ref}][\text{parity_pred}]) // 2) + e[\text{parity_ref}][\text{parity_pred}]}$ $\frac{((\text{vector}'[0][0][1] * m[\text{parity_ref}][\text{parity_pred}]) // 2) + \text{dmvector}[1]}{((\text{vector}'[0][0][1] * m[\text{parity_ref}][\text{parity_pred}]) // 2) + e[\text{parity_ref}][\text{parity_pred}] + \text{dmvector}[1]}$				
c)	In this table, 'NA' indicates a constraint that does not apply due to a constraint on the value of picture_structure .				

3) Clause 8.5, Table 8-11

In clause 8.5, replace Table 8-11 with:

Table 8-11 – Upper bounds for sampling density

Level	Spatial resolution layer		Profile						
			Simple	Main	SNR	Spatial	High	4:2:2	Multi
HighP	Enhancement	Samples/line Lines/frame Frames/sec		1920 1088 60					
	Lower	Samples/line Lines/frame Frames/sec		–					
High	Enhancement	Samples/line Lines/frame Frames/sec		1920 1088 60			1920 1088 60	1920 1088 60	1920 1088 60
	Lower	Samples/line Lines/frame Frames/sec		–			960 576 30	–	1920 1088 60
High-1440	Enhancement	Samples/line Lines/frame Frames/sec		1440 1088 60		1440 1088 60	1440 1088 60	–	1440 1088 60
	Lower	Samples/line Lines/frame Frames/sec		–		720 576 30	720 576 30	–	1440 1088 60
Main	Enhancement	Samples/line Lines/frame Frames/sec	720 576 30	720 576 30	720 576 30		720 576 30	720 608 ^{a)} 30	720 576 30
	Lower	Samples/line Lines/frame Frames/sec	–	–	–		352 288 30	–	720 576 30
Low	Enhancement	Samples/line Lines/frame Frames/sec		352 288 30	352 288 30			–	352 288 30
	Lower	Samples/line Lines/frame Frames/sec		–	–			–	352 288 30

In the case of single layer or SNR scaled coding, the limits specified by 'Enhancement layer' apply.

^{a)} 512 lines/frame for 525/60, 608 lines/frame for 625/50.