

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

H.222.0

Corrigendum 3
(12/2009)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Transmission
multiplexing and synchronization

Information technology – Generic coding of moving
pictures and associated audio information: Systems

**Technical Corrigendum 3: Corrections
concerning VBV buffer size, semantics of
splice_type and removal rate from transport
buffer for ITU-T H.264 | ISO/IEC 14496-10
advanced video coding**

Recommendation ITU-T H.222.0 (2006) – Technical
Corrigendum 3

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**Information technology – Generic coding of moving pictures
and associated audio information: Systems**

Technical Corrigendum 3

**Corrections concerning VBV buffer size, semantics of splice_type and removal rate
from transport buffer for ITU-T H.264 | ISO/IEC 14496-10 advanced video coding**

Summary

This corrigendum corrects Recommendation ITU-T H.222.0 (2006) | ISO/IEC 13818-1:2007. This includes VBV buffer size correction, correction of semantics of splice_type and removal rate from transport buffer for Rec. ITU-T H.264 | ISO/IEC 14496-10 advanced video coding.

History

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1.4	ITU-T H.222.0 (1995) Amend. 3	1998-02-06	16
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2.1	ITU-T H.222.0 (2000) Technical Cor. 1	2001-03-01	16
2.2	ITU-T H.222.0 (2000) Technical Cor. 2	2002-03-29	16
2.3	ITU-T H.222.0 (2000) Amend. 1	2002-12-14	16
2.4	ITU-T H.222.0 (2000) Amend. 1/Cor. 1	2003-06-29	16
2.5	ITU-T H.222.0 (2000) Amend. 2	2003-06-29	16
2.6	ITU-T H.222.0 (2000) Amend. 3	2004-03-15	16
2.7	ITU-T H.222.0 (2000) Technical Cor. 3	2005-01-08	16
2.8	ITU-T H.222.0 (2000) Amend. 4	2005-01-08	16
2.9	ITU-T H.222.0 (2000) Amend. 5	2005-01-08	16
2.10	ITU-T H.222.0 (2000) Technical Cor. 4	2005-09-13	16
3.0	ITU-T H.222.0	2006-05-29	16
3.1	ITU-T H.222.0 (2006) Amend.1	2007-01-13	16
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3.3	ITU-T H.222.0 (2006) Cor.1	2008-06-13	16
3.4	ITU-T H.222.0 (2006) Cor.2	2009-03-16	16
3.5	ITU-T H.222.0 (2006) Amend.3	2009-03-16	16
3.6	ITU-T H.222.0 (2006) Cor.3	2009-12-14	16
3.7	ITU-T H.222.0 (2006) Cor.4	2009-12-14	16
3.8	ITU-T H.222.0 (2006) Amend.4	2009-12-14	16

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In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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

Technical Corrigendum 3

Corrections concerning VBV buffer size, semantics of splice_type and removal rate
from transport buffer for ITU-T H.264 | ISO/IEC 14496-10 advanced video coding

1) Subclause 2.4.2.3

In subclause 2.4.2.3, renumber Note 1 to Note 2, Note 2 to Note 3, Note 3 to Note 4 and add a new note after the following sentence to explain the difference in units between Rec. ITU-T H.262 | ISO/IEC 13818-2 and Rec. ITU-T H.222.0 | ISO/IEC 13818-1.

“Refer to Summary of Constrained Parameters in ISO/IEC 11172-2 and Table 8-14 of Rec. ITU-T H.262 | ISO/IEC 13818-2.”

NOTE 1 – In the following equations, unit conversion should be implicitly performed as appropriate.

2) Subclause 2.4.3.5

a) *Replace the semantics for splice_type in subclause 2.4.3.5 from:*

splice_type – This is a 4-bit field. From the first occurrence of this field onwards, it shall have the same value in all the subsequent Transport Stream packets of the same PID in which it is present, until the packet in which the splice_countdown reaches zero (including this packet). If the elementary stream carried in that PID is not an ITU-T Rec. H.262 | ISO/IEC 13818-2 video stream, then this field shall have the value '0000'. If the elementary stream carried in that PID is an ITU-T Rec. H.262 | ISO/IEC 13818-2 video stream, then this field indicates the conditions that shall be respected by this elementary stream for splicing purposes. These conditions are defined as a function of profile, level and splice_type in Table 2-7 through Table 2-20.

to:

splice_type – This is a 4-bit field. From the first occurrence of this field onwards, it shall have the same value in all the subsequent Transport Stream packets of the same PID in which it is present, until the packet in which the splice_countdown reaches zero (including this packet). If the elementary stream carried in that PID is not an ITU-T Rec. H.262 | ISO/IEC 13818-2 video stream, then this field shall have the value '1111' (unspecified). If the elementary stream carried in that PID is an ITU-T Rec. H.262 | ISO/IEC 13818-2 video stream, then this field indicates the conditions that shall be respected by this elementary stream for splicing purposes. These conditions are defined as a function of profile, level and splice_type in Table 2-7 through Table 2-20.

b) *Replace Tables 2-7 to 2-20 to indicate splice_type = 1111 is unspecified and user-defined range is 1100 1110.*

3) Subclause 2.5.2.4

Add a note after the following sentence in subclause 2.5.2.4 to explain the difference in units between Rec. ITU-T H.262 | ISO/IEC 13818-2 and Rec. ITU-T H.222.0 | ISO/IEC 13818-1.

“The demultiplexer sends data to only one elementary stream buffer.”

NOTE – In the following equations, unit conversion should be implicitly performed as appropriate.

4) Subclause 2.14.3.1

Replace the definition of R_x in subclause 2.14.3.1 from:

Rate R_{x_n} :

when there is no data in TB_n then R_{x_n} is equal to zero. Otherwise:

$R_{x_n} = \text{bit_rate}$

where bit_rate is $1.2 \times \text{BitRate}[\text{SchedSelIdx}]$ of data flow into the CPB for the byte stream format signalled in the NAL `hrd_parameters()` carried in VUI parameters in the AVC video stream. Annex E of ITU-T Rec. H.264 | ISO/IEC 14496-10 specifies `SchedSelIdx` to be in the range from 0 to `cpb_cnt_minus1` and the rate R_{x_n} should be verified for each value of `BitRate[SchedSelIdx]`, if multiple values are present in the NAL `hrd_parameters()`. If NAL `hrd_parameters()` are not present in the AVC video stream, then the bit_rate shall be the bit rate $1200 \times \text{MaxBR}[\text{level}]$ defined in Annex A of ITU-T Rec. H.264 | ISO/IEC 14496-10 for the level of the AVC video stream.

to:

Rate R_{x_n} :

when there is no data in TB_n then R_{x_n} is equal to zero. Otherwise:

$R_{x_n} = \text{bit_rate}$

where bit_rate is $1.2 \times \text{BitRate}[\text{SchedSelIdx}]$ of data flow into the CPB for the byte stream format and `BitRate[SchedSelIdx]` is as defined in Annex E of ITU-T Rec. H.264 | ISO/IEC 14496-10.

NOTE 2 – Annex E specifies the values for `BitRate[SchedSelIdx]` when NAL `hrd_parameters()` is present in the VUI parameters of the AVC video stream and default values for `BitRate[SchedSelIdx]` based on profile and level when NAL `hrd_parameters()` is not present.

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