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**Information technology — Generic  
coding of moving pictures and  
associated audio information —**

**Part 7:  
Advanced Audio Coding (AAC)**

**AMENDMENT 1: Embedding of bandwidth  
extension**

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

*Partie 7: Codage du son avancé (AAC)*

*AMENDEMENT 1: Scellement d'extension de largeur de bande*

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Published in Switzerland

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Amendment 1 to ISO/IEC 13818-7:2003 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.



# Information technology — Generic coding of moving pictures and associated audio information —

## Part 7: Advanced Audio Coding (AAC)

### AMENDMENT 1: Embedding of bandwidth extension

Page 8, Clause 2

Add the following normative reference:

“ISO/IEC 14496-3:2001/Amd.1, *Information technology — Coding of audio-visual objects — Part 3: Audio — Amendment 1: Bandwidth extension*”

Page 31, subclause 6.3

Replace Table 28 with the following:

**Table 28 — Syntax of extension\_payload()**

extension_payload(cnt)		
{		
<b>extension_type;</b>	<b>4</b>	<b>uimsbf</b>
switch (extension_type) {		
case EXT_DYNAMIC_RANGE:		
n = dynamic_range_info();		
return n;		
case EXT_SBR_DATA:		NOTE 1
return sbr_extension_data(id_aac, 0);		
case EXT_SBR_DATA_CRC:		NOTE 1
return sbr_extension_data(id_aac, 1);		
case EXT_FILL_DATA:		
<b>fill_nibble;</b> /* must be '0000' */	<b>4</b>	<b>uimsbf</b>
for (i = 0; i < cnt-1; i++)		
<b>fill_byte[i];</b> /* must be '10100101' */	<b>8</b>	<b>uimsbf</b>
return cnt;		
case default:		
for (i = 0; i < 8*(cnt-1)+4; i++)		
<b>other_bits[i];</b>	<b>1</b>	<b>uimsbf</b>
return cnt;		
}		
}		

NOTE 1 id\_aac is the id\_syn\_ele of the corresponding AAC element (ID\_SCE or ID\_CPE) or ID\_SCE in case of CCE.

Page 58, subclause 8.7.3

Replace Table 41 with the following:

**Table 41 — Values of the extension\_type data element**

Symbol	Value of extension_type	Purpose
EXT_FILL	'0000'	Bitstream filler
EXT_FILL_DATA	'0001'	Bitstream data as filler
EXT_DYNAMIC_RANGE	'1011'	Dynamic range control
EXT_SBR_DATA	'1101'	SBR enhancement
EXT_SBR_DATA_CRC	'1110'	SBR enhancement with CRC
-	all other values	reserved

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Add the following subclause after subclause 8.7.4:

**8.7.5 Bandwidth Extension (SBR)**

Fill elements containing an extension\_payload with an extension\_type of EXT\_SBR\_DATA or EXT\_SBR\_DATA\_CRC are reserved for SBR enhancement data. In this case, the fill\_element count field must be set equal to the total length in bytes, including the SBR enhancement data plus the extension\_type field.

sbr\_extension\_data() and the decoding process are defined in ISO/IEC 14496-3:2001/Amd.1.

The SBR fill elements shall be handled according to ISO/IEC 14496-3:2001/Amd.1, subclause 4.5.2.8.2.2 "SBR Extension Payload for the Audio Object Types AAC main, AAC SSR, AAC LC and AAC LTP". The signaling of SBR shall be done implicitly as outlined in ISO/IEC 14496-3:2001/Amd.1, subclause 1.6.5.