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TECHNICAL CORRIGENDUM 2

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Information technology — MPEG audio technologies —

Part 1: MPEG Surround

TECHNICAL CORRIGENDUM 2

Technologies de l'information — Technologies audio MPEG —

Partie 1: Ambiance MPEG

RECTIFICATIF TECHNIQUE 2

Technical Corrigendum 2 to ISO/IEC 23003-1:2007 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

Throughout this Technical Corrigendum, changes to existing text and tables are highlighted using a grey background.

In the first paragraph of 3.5, replace:

$\mathbf{a}^m(l)$ aliasing condition vector defined for every parameter **time slot** l and all QMF subbands m that are the last subband (highest in frequency) within a parameter band.

with:

$\mathbf{a}^m(l)$ aliasing condition vector defined for every parameter **set** l and all QMF subbands m that are the last subband (highest in frequency) within a parameter band.

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In the first paragraph of 3.5, replace:

$r^m(l)$ weighted correlation sum based on the input downmix signal, defined for every parameter **time slot** l and all QMF subbands m that have an adjoining parameter border, used for Low Power MPEG surround.

with:

$r^m(l)$ weighted correlation sum based on the input downmix signal, defined for every parameter **set** l and all QMF subbands m that have an adjoining parameter border, used for Low Power MPEG surround.

In 4.3.2, replace the title of Table 2:

Table 2 — Outline of difference between the High Quality and the Low Power MEG Surround system

with:

Table 2 — Outline of difference between the High Quality and the Low Power **MPEG** Surround system

In 4.5, replace the third paragraph and the caption of Figure 11:

If the MPEG Surround decoder is connected with an arbitrary downmix coder (including High Efficiency AAC) via the time domain, as shown in

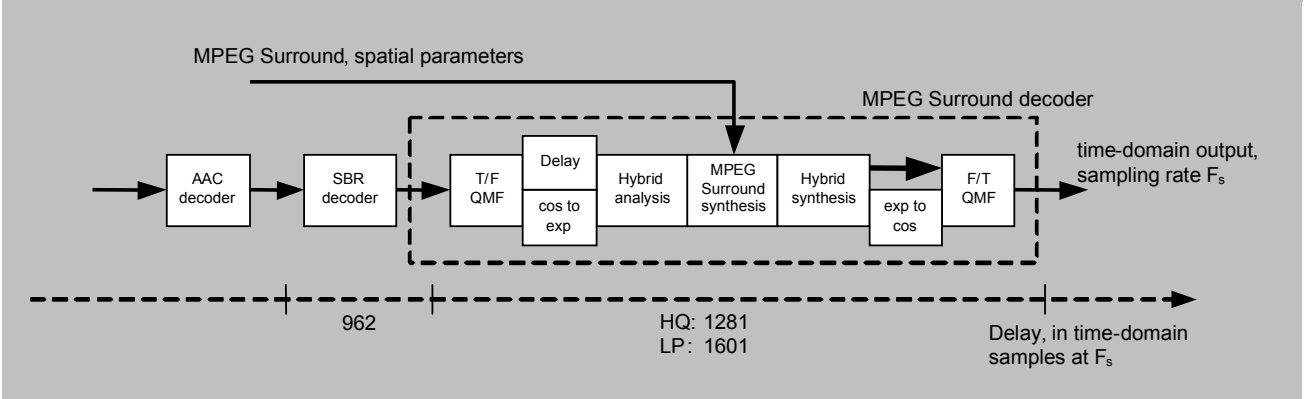


Figure 11, the additional delay introduced by the MPEG Surround decoding process will be as outlined above.

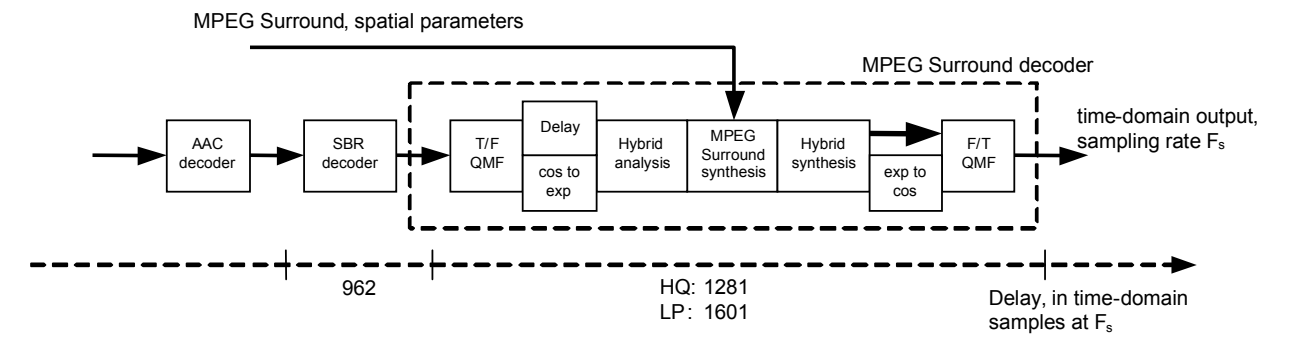


Figure 11 — Delay when connecting MPEG Surround in the **time-domain** for arbitrary core codec (including HE-AAC)

with:

If the MPEG Surround decoder is connected with an arbitrary downmix coder, the additional delay introduced by the MPEG Surround decoding process will be as outlined above. The connection of MPEG Surround with a High Efficiency AAC downmix coder in the time domain is shown in

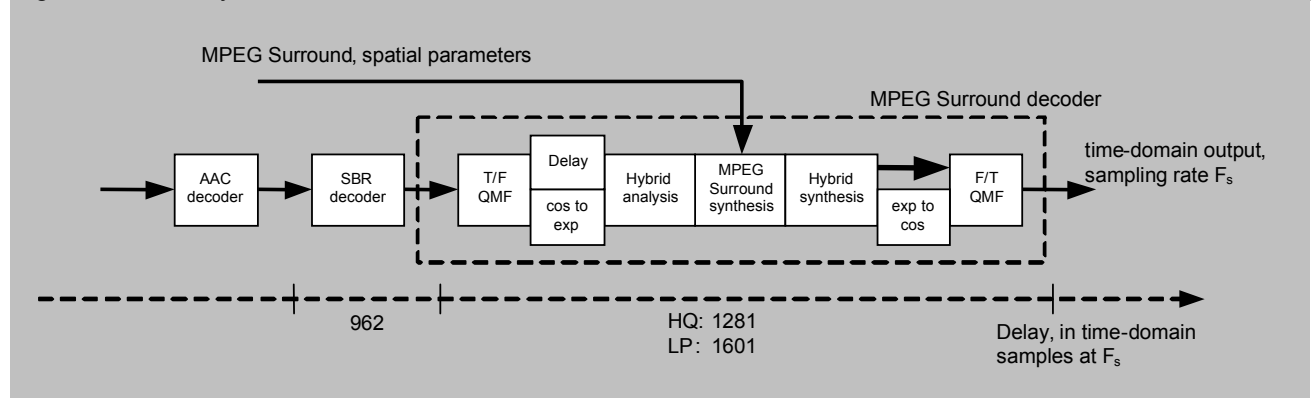


Figure 11, where the HE-AAC decoder comprises AAC and SBR decoding.

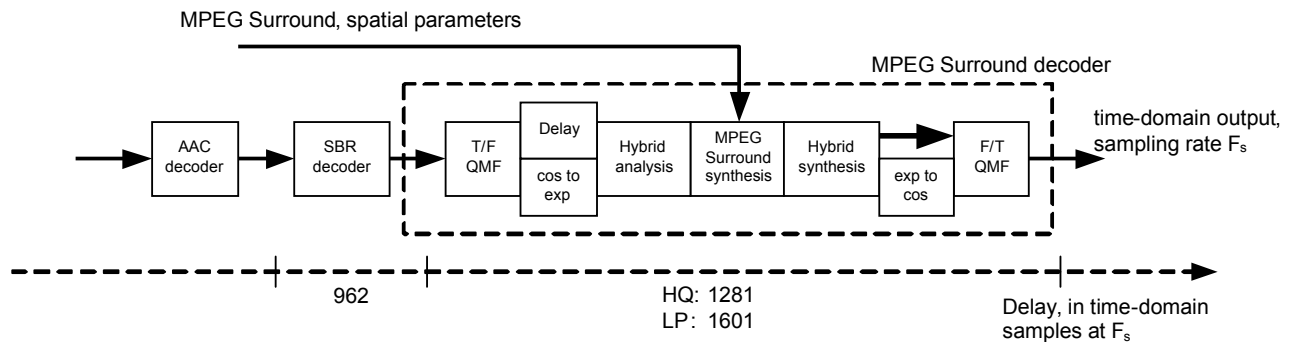


Figure 11 — Delay when connecting MPEG Surround with HE-AAC in the time domain

In 4.5, replace the title of Figure 12:

Figure 12 — Delay when connecting MPEG Surround with HE-AAC in the QMF-domain

with:

Figure 12 — Delay when connecting MPEG Surround with HE-AAC in the QMF domain

In 4.5, replace the fifth paragraph:

Transmission of MPEG Surround side information with respect to transmission of the coded downmix signal is done in such a manner that there is no need to delay the downmix signal before it is processed by the MPEG Surround decoder. This means that MPEG Surround data is conveyed such that it is available when needed by the MPEG Surround decoding process. The temporal relationship between downmix data and spatial data is defined in Clause 6. Note that special consideration is required if an MPEG Surround decoder and an HE-AAC decoder are connected in the time domain while a connection in the QMF domain would have been possible according to subclause 4.4. In this case, the spatial parameters have to be delayed by 961 time samples, which is the sum of 257 samples for HE-AAC QMF synthesis and 704 samples for MPEG Surround QMF and Nyquist analysis.

with:

Transmission of MPEG Surround side information with respect to transmission of the coded downmix signal is preferably done in such a manner that there is no need to delay the downmix signal before it is processed by the MPEG Surround decoder. This means that MPEG Surround data is preferably conveyed such that it is available when needed by the MPEG Surround decoding process. The temporal relationship between downmix data and spatial data is defined in Clause 7. For the Baseline MPEG Surround Profile defined in 4.7.2, restrictions for the temporal relationship are specified. Note that special consideration is required if an MPEG Surround decoder and an HE-AAC decoder are connected in the time domain while a connection in the QMF domain would have been possible according to 4.4. In this case, the spatial parameters have to be delayed by 961 time samples, which is the sum of 257 samples for HE-AAC QMF synthesis and 704 samples for MPEG Surround QMF and Nyquist analysis.

In 4.7.2, Note 3 at the bottom of Table 4, replace:

Note 3: A low power decoder utilizes only residual coding data for the first 8 QMF bands, corresponding to approximately 2.7 kHz bandwidth.

with:

Note 3: A low power decoder utilizes only residual coding data for the first 7 QMF bands, corresponding to approximately 2.4 kHz bandwidth at a sampling frequency of 44.1 kHz.

At the end of 4.7.2, add the following new paragraphs and table:

If a Baseline MPEG Surround Profile decoder is used in combination with one of the MPEG downmix coders listed in Table 4A, the following additional restrictions apply. The MPEG Surround frame length must be an integer multiple of the downmix coder frame length, i.e. `bsFrameLength` must have one of the allowed values listed in Table 4A (see 6.3.3 for details of downsampled or upsampled operation of MPEG Surround). Furthermore, in the case that MPEG Surround data is embedded in a downmix bitstream (as defined in 7.2.3 and 7.2.4), the temporal relationship between downmix data and spatial data must be such that the `sacTimeAlign` parameter (defined in 7.2.5) has the value 0. In the case that MPEG Surround data and downmix data are conveyed in separate streams (as defined in 7.2.2), the temporal relationship must be such that the time stamp of an MPEG Surround access unit must be the same as the time stamp of an downmix access unit.