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Information technology — MPEG audio technologies —

Part 4: Dynamic range control

AMENDMENT 2: Loudness leveling

Technologies de l'information — Technologies audio MPEG —
Partie 4: Contrôle de gamme dynamique
AMENDEMENT 2: Égalisation de l'intensité sonore

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Information technology — MPEG audio technologies —

Part 4:
Dynamic range control

AMENDMENT 2: Loudness leveling

Introduction

Replace the fourth sentence in the second paragraph with the following:

The DRC tool includes dedicated sections for clipping prevention, ducking/leveling, and for generating a fade-in and fade-out to supplement the main dynamic range compression functionality.

6.1.1

Add, before the sentence starting with "For ISO/IEC 14496-12, configuration extension", the following:

An extension payload of type UNIDRCCONFEXT_V1 shall precede an extension payload of type UNIDRCCONFEXT_LEVELING in the bitstream if both payloads are present.

6.1.2.4

Replace last three sentences of the first paragraph with:

If the bit for the "Duck other" or the "Duck/Level self" *drcSetEffect* is set, the DRC set is applied before any downmix specified by the downmix ID, i.e. the DRC set is always applied to the base layout and the downmix is generated thereafter. The *downmixId* 0x7F is not permitted for a DRC set with "Duck other" or "Duck/Level self" effect. In all other cases, the DRC set is applied to the channel configuration indicated by the *downmixId*.

Replace the last sentence in the next-to-last paragraph with:

Similarly, if *duckingScalingPresent* == 1, the scaling factor shall be applied to the associated ducking/leveling gain sequence for that channel group.

6.3.1

Replace the fourth and fifth paragraph with the following:

DRC sets with only a "Fade", "Duck other" or "Duck/Level self" effect are automatically selected by the decoder without using the three-stage selection process. DRC sets with other features can be requested by using DRC decoder settings as described below.

The pool of DRC sets that is subject to the three-stage selection process comprises not only the DRC sets defined in the bitstream (except for DRC sets with "Fade", "Duck other" or a "Duck/Level self" effect) but also virtual DRC sets generated in the DRC tool. The virtual DRC sets are placeholders for the cases where no compression is applied to the audio signal, hence their *drcSetEffect* bits are zero and they correspond to the DRC effect request "None".

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6.3.2.1

Replace the first paragraph with the following:

The pre-selection selects all DRC sets that fulfil all requirements listed in Table 10. All available DRC sets are analysed in the given order of steps. If no DRC set is selected, no DRC can be applied except for DRC sets with "Fade", "Duck other" or "Duck/Level self" effect.

Replace Entry #4 of Table 10 with the following:

4	The DRC set does not only have a "Fade", "Duck other" or "Duck/Level self" effect enabled.	Always.	DRC sets with "Fade", "Duck other" or "Duck/Level self" effect are selected automatically. They are not subject to this selection process.

Replace NOTE of Table 10 with the following:

NOTE Pre-selection steps #8 and #9 are interpreted as pre-selection steps #7 and #8 in the first edition of this document (ISO/IEC 23003-4:2015). Pre-selection step #7 related to EQ support is first available with the second edition of this document (ISO/IEC 23003-4:2020).

6.3.2.2.1

*Replace the last sentence of the second paragraph, starting with "*If no matching downmix IDs can be found*..." with the following:*

If no matching downmix IDs can be found, no DRC set can be applied except for DRC sets with "Fade", "Duck other" or a "Duck/Level self" effect.

6.3.4

Replace the first paragraph with the following:

This clause uses the term "multiple DRC sets" for DRC sets that are independent of each other and do not include DRC sets with "Fade", "Duck other" or a "Duck/Level self" effect.

6.3.5

Replace 6.3.5 with the following:

6.3.5 Applying multiple DRC sets

In the following cases, multiple DRC sets are applied simultaneously. First, if the DRC set selected in 6.3.4 carries a non-zero entry in the *dependsOnDrcSet* field, the depending DRC set is applied together with the selected one. Second, if a DRC set with "Fade", "Duck other" or "Duck/Level self" effect was automatically selected, it is applied simultaneously with the DRC set selected in 6.3.4 Thus, if the DRC set selected in 6.3.4 has a non-zero *dependsOnDrcSet* value, a total of three DRC sets are applied, which is the maximum number permitted. If all three DRC sets are applied to the same layout (*downmixId*), the DRC set referenced in the *dependsOnDrcSet* field shall be applied first, the DRC set selected in 6.3.4 shall be applied thereafter, and the DRC set with "Fade", "Duck other" or "Duck/Level self" effect shall be applied last. If none of the applied DRC sets is a parametric DRC (see 6.6), the DRC set with "Fade", "Duck

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