

Multimedia systems and equipment – Colour measurement and management
Part 2-4: Colour management – Extended-gamut YCC colour space for video applications – xvYCC

CORRIGENDUM 1

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4.4 Digital quantization methods

Replace the existing note after equation (7) by the following new note:

NOTE Bit levels “from 0 to $2^{N-8}-1$ ” and “from $255 \times 2^{N-8}$ to 2^N-1 ” (0 and 255, for the case of 8-bit encoding) are used exclusively for synchronization and are not allowed for storing colour values. Levels from “ 2^{N-8} ” to “ $255 \times 2^{N-8}-1$ ” (from 1 to 254, for the case of 8-bit encoding) are available.

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5.2 Transformation from xvYCC values to CIE 1931 XYZ values

Replace, on page 10, the inequality signs for equations (12), (13) and (14) as follows:

From $R', G', B' < -0,081$ to $R', G', B' \leq -0,081$

From $-0,081 \leq R', G', B' \leq 0,081$ to $-0,081 < R', G', B' < 0,081$

From $R', G', B' > 0,081$ to $R', G', B' \geq 0,081$

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Replace the existing Annex A, by the following new Annex A:

Annex A
(informative)

Compression of specular components of Y' signals

This annex describes an example method for the dynamic range compression of the specular components that are brighter than white in Y' (or Luma) signal.

In xvYCC colour encoding, linear R, G, B values after equation (8), or non-linear R', G', B' values after equations (9) to (11) are not limited between 0 and 1. After the YCC quantization (equation (14)), the value range will be limited as follows:

Y' signal: $-15/219$ to $+238/219$ (or $-0,068\ 493$ to $+1,086\ 758$)

Cb', Cr' signal: $-127/224$ to $+126/224$ (or $-0,566\ 964$ to $+0,562\ 500$)

For the surface colours, Y' signals shall be in the range of 0 and 1, while over-ranged values (greater than 1,0 or smaller than 0,0) in Cb' and Cr' are used for storing saturated colours.

However, if the specular components that are brighter than white exist in a captured image, there will be pixels with Y' signals greater than "1". These components should be compressed (or clipped) into the given quantization range. An example for the specular compression method is provided in Figure A.1.

NOTE Different proprietary compression methods in either Y' components or R'G'B' components are used in practice.

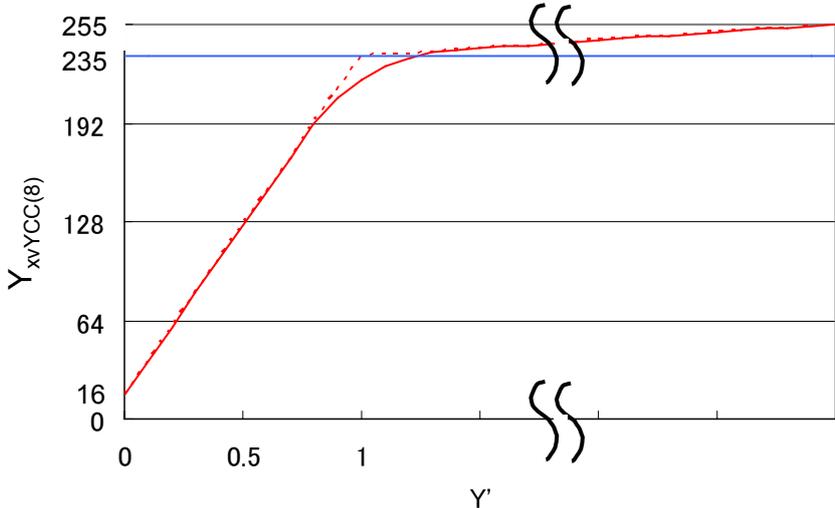


Figure A.1 – Example of the specular compression method