BRITISH STANDARD

BS EN
61966-2-4:2006
+A1:2016

Multimedia systems and equipment — Colour measurement and management —

Part 2–4: Colour management — Extended-gamut YCC colour space for video applications — xvYCC (IEC 61966-2-4:2006)

ICS 33.160.40; 17.180.20

BSI
British Standards

National foreword

This British Standard is the UK implementation of EN 61966-2-4:2006+A1:2016. It supersedes BS EN 61966-2-4:2006 which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee EPL/100, Audio, video and multimedia systems and equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Amendments/corrigenda issued since publication

Date	Comments
31 October 2016	Implementation of IEC amendment 1:2016 with CENELEC endorsement A1:2016

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 61966-2-4:2006+A1

September 2016

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English version

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

(IEC 61966-2-4:2006)

Mesure et gestion de la couleur dans les systèmes et appareils multimedia Partie 2-4 : Gestion de la couleur - Extension de gamme de l'espace chromatique YCC pour applications vidéo - xvYCC
(CEI 61966-2-4:2006)

Multimediasysteme und -geräte - Farbmessung und Farbmanagement Teil 2-4: Farbmanagement - Erweiterter YCC-Farbraum für Videoanwendungen - xvYCC
(IEC 61966-2-4:2006)

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of the International Standard IEC 61966-2-4:2006, prepared by IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the formal vote and was approved by CENELEC as EN 61966-2-4 on 2006-09-01 without any modification.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2007-06-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-09-01

Endorsement notice

The text of the International Standard IEC 61966-2-4:2006 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61966-2-1 + A1	NOTE	Harmonized as EN 61966-2-1:2000 + A1:2003 (not modified).
IEC 61966-2-2	NOTE	Harmonized as EN 61966-2-2:2003 (not modified).

Foreword to amendment A1

The text of document 100/2457A/CDV, future IEC 61966-2-4:2006/A1, prepared by IEC/TC 100, "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61966-2-4:2006/A1:2016.

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• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-03-02
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-06-02

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61966-2-4:2006/A1:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

Addition

IEC 61633-12-1:2011	NOTE	Harmonized as EN 61633-12-1:2011.
IEC 61633-12-2:2014	NOTE	Harmonized as EN 61633-12-2:2014.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-845	1987	International Electrotechnical Vocabulary (IEV) Chapter 845: Lighting	-	-
ITU-R Recommendation BT.601-5	1995	Studio encoding parameters of digital television for standard 4:3 and wide-screen 16:9 aspect ratios	-	-
ITU-R Recommendation BT.709-5	2002	Parameter values for the HDTV standards for production and international programme exchange	-	-

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INTRODUCTION

After the publication of IEC 61966-2-1, Amendment 1, the sYCC colour encoding was used to capture, store and print extended colour gamut for still image applications. Users received pleasant benefit by exchanging and reproducing wide-gamut colour images.

Recently, various kinds of displays that are capable of producing a wider gamut of colour than the conventional CRT-based displays are emerging. However, most of the current video contents that are displayed on conventional displays, are rendered for the sRGB-gamut. Users of wide-gamut displays could benefit from wide-gamut colour images by video colour encoding that supports a larger colour gamut.

This standard defines the “extended-gamut YCC colour space for video applications”. It is based on the current implementation of YCC colour encoding that is used in the video industry (namely ITU-R BT.709-5) and extends its definition to the wider gamut of colour range.

MULTIMEDIA SYSTEMS AND EQUIPMENT – COLOUR MEASUREMENT AND MANAGEMENT –

Part 2-4: Colour management – Extended-gamut YCC colour space for video applications – xvYCC

1 Scope

This part of IEC 61966 is applicable to the encoding and communication of YCC colours used in video systems and similar applications by defining encoding transformations for use in defined reference capturing conditions. If actual conditions differ from the reference conditions, additional rendering transformations may be required. Such additional rendering transformations are beyond the scope of this standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-845:1987, *International Electrotechnical Vocabulary (IEV) – Part 845: Lighting*

ITU-R Recommendation BT.601-5:1995, *Studio encoding parameters of digital television for standard 4:3 and wide-screen 16:9 aspect ratios*

ITU-R Recommendation BT.709-5:2002, *Parameter values for the HDTV standards for production and international programme exchange*

3 Terms and definitions

For the purposes of this document, the following terms and definitions, as well as those concerning illuminance, luminance, tristimulus, and other related lighting terms given in IEC 60050-845, apply.

3.1
scene-referred colour encoding
representation of estimated colour-space coordinates of the elements of an original scene, where a scene is defined to be the relative spectral radiance

3.2
output-referred colour encoding
representation of estimated colour-space coordinates of image data that are appropriate for specified output device and viewing conditions

3.3
extended gamut
colour gamut extending outside that of the standard sRGB CRT display defined in IEC 61966-2-1