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## Ljud- och bildsystem – Färgmätning och färghantering – Del 2-4: Färghantering – Utökad YCC-färgrymd för videotillämpningar – xvYCC

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

Som svensk standard gäller europastandarden EN 61966-2-4:2006. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61966-2-4:2006.

### Nationellt förord

Europastandarden EN 61966-2-4:2006<sup>\*)</sup>

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61966-2-4, First edition, 2006<sup>\*\*) - Multimedia systems and equipment - Colour measurement and management - Part 2-4: Colour management - Extended-gamut YCC colour space for video applications - xvYCC</sup>**

utarbetad inom International Electrotechnical Commission, IEC.

<sup>\*)</sup> EN 61966-2-4:2006 ikraftsattes 2006-11-20 som SS-EN 61966-2-4 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

<sup>\*\*) Corrigendum November 2006 till IEC 61966-2-4:2006 är inarbetat i standarden.</sup>

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**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)**

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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)

This European Standard was approved by CENELEC on 2006-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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**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**

## 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

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## 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<br>+ 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). |
|---------------|------------------------------------------------------|

## 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.

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

## CONTENTS

|                                                                                           |    |
|-------------------------------------------------------------------------------------------|----|
| FOREWORD.....                                                                             | 3  |
| INTRODUCTION.....                                                                         | 5  |
| 1 Scope.....                                                                              | 6  |
| 2 Normative references .....                                                              | 6  |
| 3 Terms and definitions.....                                                              | 6  |
| 4 Colorimetric parameters and related characteristics .....                               | 7  |
| 4.1 Primary colours and reference white.....                                              | 7  |
| 4.2 Opto-electronic transfer characteristics .....                                        | 7  |
| 4.3 YCC (luma-chroma-chroma) encoding methods.....                                        | 8  |
| 4.4 Digital quantization methods .....                                                    | 8  |
| 5 Encoding transformations .....                                                          | 9  |
| 5.1 Introduction .....                                                                    | 9  |
| 5.2 Transformation from xvYCC values to CIE 1931 XYZ values .....                         | 9  |
| 5.3 Transformation from CIE 1931 XYZ values to xvYCC values .....                         | 11 |
| Annex A (informative) Compression of specular components of Y' signals .....              | 13 |
| Annex B (informative) Default transformation from 16-bit scRGB values to xvYCC values.... | 14 |
| Annex C (informative) xvYCC/ITU-R BT.709 and sYCC/sRGB compatibility .....                | 16 |
| Bibliography.....                                                                         | 18 |
| Figure A.1 – Example of the specular compression method .....                             | 13 |
| Figure C.1 – Relationship between ITU-R BT.709 and sRGB .....                             | 16 |
| Figure C.2 – Relationship between xvYCC and sYCC .....                                    | 17 |
| Table 1 – CIE chromaticities for reference primary colours and reference white .....      | 7  |

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTIMEDIA SYSTEMS AND EQUIPMENT –  
COLOUR MEASUREMENT AND MANAGEMENT –****Part 2-4: Colour management –  
Extended-gamut YCC colour space  
for video applications – xvYCC**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61966-2-4 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

This bilingual version (2013-03) corresponds to the monolingual English version, published in 2006-01.

The text of this standard is based on the following documents:

| CDV         | Report on voting |
|-------------|------------------|
| 100/967/CDV | 100/1026/RVC     |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The French version of this standard has not been voted upon.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 61966 consists of the following parts, under the general title *Multimedia systems and equipment – Colour measurement and management*:

- Part 2-1: Colour management – Default RGB colour space – sRGB
- Part 2-2: Colour management – Extended RGB colour space – scRGB
- Part 2-4: Colour management – Extended-gamut YCC colour space for video applications – xvYCC
- Part 2-5: Colour management – Optional RGB colour space – opRGB (under consideration)
- Part 3: Equipment using cathode ray tubes
- Part 4: Equipment using liquid crystal display panels
- Part 5: Equipment using plasma display panels
- Part 6: Front projection displays
- Part 7-1: Colour printers – Reflective prints – RGB inputs
- Part 7-2: Colour printers – Reflective prints – CMYK inputs (proposed work item)
- Part 8: Multimedia colour scanners
- Part 9: Digital cameras
- Part 10: Quality assessment (proposed work item)
- Part 11: Quality assessment – Impaired video in network systems (proposed work item)

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

The contents of the corrigendum of November 2006 have been included in this copy.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**



## 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*