SVENSK STANDARD SS-EN 61966-12-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2014-08-20	1	1 (1+19)	SEK TK 100

Ljud- och bildsystem – Färgmätning och färghantering – Del 12-12: Enkelt format för metadata för identifiering av färgomfång

Multimedia systems and equipment – Colour measurement and management – Part 12-2: Simple metadata format for identification of colour gamut

Som svensk standard gäller europastandarden EN 61966-12-2:2014. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61966-12-2:2014.

Nationellt förord

Europastandarden EN 61966-12-2:2014

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61966-12-2, First edition, 2014 - Multimedia systems and equipment - Colour measurement and management - Part 12-2: Simple metadata format for identification of colour gamut**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 17.180.20; 33.160.00

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61966-12-2

May 2014

ICS 17.180.20; 33.160

English Version

Multimedia systems and equipment - Colour measurement and management - Part 12-2: Simple metadata format for identification of colour gamut (IEC 61966-12-2:2014)

Systèmes et équipements multimédias - mesure et gestion de couleur - Partie 12-2: format de métadonnées simple pour l'identification de la gamme de couleurs (CEI 61966-12-2:2014)

Multimediasysteme und -geräte - Farbmessung und Farbmanagement - Teil 12-2: Einfaches Metadaten-Format zur Erkennung von Farbumfängen (IEC 61966-12-2:2014)

This European Standard was approved by CENELEC on 2014-05-22. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 61966-12-2:2014 E

SEK Svensk Elstandard

Foreword

The text of document 100/2129/CDV, future edition 1 of IEC 61966-12-2, prepared by technical area 2: Colour measurement and management, of IEC technical committee 100: Audio, video and multimedia systems and equipment was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61966-12-2:2014.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-02-22
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-05-22

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 61966-12-2:2014 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 61966-2-5	NOTE	Harmonised in EN 61966-2-5 (not modified).

Annex ZA
(normative)
Normative references to international publications with their corresponding European publications

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

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEC 60050-845	-	International Electrotechnical Vocabulary (IEV) -- Chapter 845: Lighting	-	-
IEC 61966-2-4	-	Multimedia systems and equipment - Colour measurement and management -- Part 2-4: Colour management - Extended-gamut YCC colour space for video applications - xvYCC	EN 61966-2-4	-
IEC 61966-12-1	2011	Multimedia systems and equipment - Colour measurement and management -- Part 12-1: Metadata for identification of colour gamut (Gamut ID)	EN 61966-12-1	2011
ISO 15076-1	2005	Image technology colour management - Architecture, profile format and data structure -- Part 1: Based on ICC.1:2004-10	-	-

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MULTIMEDIA SYSTEMS AND EQUIPMENT – COLOUR MEASUREMENT AND MANAGEMENT –

Part 12-2: Simple metadata format for identification of colour gamut

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 61966-12-2 has been prepared by technical area 2: Colour measurement and management, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

CDV	Report on voting
100/2129/CDV	100/2276/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.

A list of alll parts of the IEC 61966 series, published under the general title *Multimedia systems and equipment – Colour measurement and management*, can be found on the IEC website.

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

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

New technologies in capturing and displaying wide-gamut colour images enable a new market of wide-gamut video colour content creation. Recent video standards for wide gamut colour space encoding such as IEC 61966-2-4 (xvYCC) were developed in order to be able to distribute content with a colour gamut that is extended with respect to classical colour gamuts such as defined by standards ITU-R BT.601 (standard definition television) and ITU-R BT.709 (high definition television). With the increasing popularity of wide gamut and high dynamic range contents and displays, the variety of colour gamuts of displays is expected to increase. This issue can be an obstacle to adoption of wide-gamut video colour contents in professional content creation since the compatibility of the contents to the employed displays, as well as the compatibility among different displays, is not ensured. The term display includes here any video colour reproduction equipment, such as direct view displays and projectors. Thanks to improvements in technology, the variety of colour gamuts and colour reproduction capacities of displays increases while the colour gamut and the colour encoding rules of existing colour space encoding standards are fixed.

To address this issue, IEC 61966-12-1: “Metadata for identification of colour gamut (Gamut ID)” specifies a colour gamut metadata scheme for video systems including information for colour reproduction. This metadata can apply to video content or displays. More specifically, improvements can be achieved if the wide-gamut colour content is created with the knowledge of the display colour gamut as well as if the colour reproduction in the display is done with the knowledge of the colour gamut of the pictorial content.

IEC 61966-12-1 has the capability to describe arbitrary 3D colour gamuts in a given colour space and include the full/medium profile for professional use and the simple profile for consumer use with easier product implementation. This approach is effective, but some ambiguities can occur in practical use. For example, if typical CE devices are able to decode the simple profile only, due to CPU and software limitations.

In this case, even if a sender device and a receiver device are "based on IEC 61966-12-1 standard",

a) the receiver device cannot handle the Gamut ID of incoming contents, if the sender device sends only full or medium profile.
b) the sender device should convert a full profile to a simple one for CE-devices, if the receiver can receive the simple profile only. But the conversion is not possible for all the cases.

Therefore, a simple Gamut ID profile standard of this standard has been developed to address this problem.

For published parts of this series of standards refer to the IEC website.

MULTIMEDIA SYSTEMS AND EQUIPMENT – COLOUR MEASUREMENT AND MANAGEMENT –

Part 12-2: Simple metadata format for identification of colour gamut

1 Scope

This part of IEC 61966 specifies the colour gamut metadata format for video systems intended for use in CE (Consumer Electronics) devices. The metadata specified in this part of IEC 61966 is limited to the gamut description of additive three primary colours type displays whose white and black points have the same chromaticity. It is fundamentally based on the conventional VESA-EDID format.

When associated with content, the simple metadata format defines the gamut for which the content was created. It can be used by the display for controlled colour reproduction even if the display's colour gamut is different from that of the content.

When associated with a display, the simple metadata format defines the display colour gamut. It can be used during content creation to enable improved colour reproduction.

This standard provides the simplest, but unambiguous solution for typical CE devices that are based on colour gamut information communication.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, *International Electrotechnical Vocabulary – Part 845: Lighting*

IEC 61966-12-1:2011, *Multimedia systems and equipment – Colour measurement and management – Part 12-1: Metadata for identification of colour gamut (Gamut ID)*

IEC 61966-2-4, *Multimedia systems and equipment – Colour measurement and management – Part 2-4: Colour management – Extended-gamut YCC colour space for video applications – xvYCC*

ISO 15076-1:2005, *Image technology colour management – Architecture, profile format and data structure – Part 1: Based on ICC.2010*