SLOVENSKI STANDARD
SIST EN 61966-2-1:2001

01-marec-2001

Multimedia system and equipment - Colour measurement and management - Part 2 -1: Colour management - Default RGB colour space - sRGB (IEC 61966-2-1:1999)

Multimedia systems and equipment - Colour measurement and management -- Part 2-1: Colour management - Default RGB colour space - sRGB

Multimediasysteme und -geräte - Farbmessung und Farbmanagement -- Teil 2-1: Farbmanagement - Vorgabe-RGB-Farbraum - sRGB

Mesure et gestion de la couleur dans les systèmes et appareils multimédia -- Partie 2-1: Gestion de la couleur - Espace chromatique RVB par défaut - sRVB

Ta slovenski standard je istoveten z: **EN 61966-2-1:2000**

ICS:

17.180.20	Barve in merjenje svetlobe	Colours and measurement of light
33.160.60	Večpredstavni (multimedijski) sistemi in oprema za telekonference	Multimedia systems and teleconferencing equipment

SIST EN 61966-2-1:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61966-2-1

March 2000

ICS 33.160.60; 37.080

English version

Multimedia systems and equipment - Colour measurement and management Part 2-1: Colour management - Default RGB colour space - sRGB (IEC 61966-2-1:1999)

Mesure et gestion de la couleur dans les systèmes et appareils multimédia
Partie 2-1: Gestion de la couleur
Espace chromatique RVB par défaut - sRVB
(CEI 61966-2-1:1999)

Multimediasysteme und Geräte
Farbmessung und Farbmanagement
Teil 2-1: Vorgabe-RGB-Farbenraum - sRGB
(IEC 61966-2-1:1999)

This European Standard was approved by CENELEC on 2000-01-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Ref. No. EN 61966-2-1:2000 E

Foreword

The text of document 100/104/FDIS, future edition 1 of IEC 61966-2-1, prepared by IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61966-2-1 on 2000-01-01.

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) 2000-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-01-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annexes A, B, C, D and E are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61966-2-1:1999 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When 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	-	-
ISO 3664	[1)]	Viewing conditions for graphic technology and photography	-	-
ISO 9358	1994	Optics and optical instruments - Veiling glare of image forming systems - Definitions and methods of measurement	-	-
ISO/CIE 10527	1991	CIE standard colorimetric observers	-	-
CIE 15.2	1986	Colorimetry	-	-
CIE 122	1996	The relationship between digital and colorimetric data for computer-controlled CRT displays	-	-
ITU-R Recommendation BT.709-3	1998	Parameter values for the HDTV standards for production and international programme exchange	-	-

1) In preparation

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
61966-2-1

Première édition
First edition
1999-10

Mesure et gestion de la couleur dans les systèmes et appareils multimédia –

Partie 2-1: Gestion de la couleur – Espace chromatique RVB par défaut – sRVB

Multimedia systems and equipment – Colour measurement and management –

Part 2-1: Colour management – Default RGB colour space – sRGB

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site http://www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE U

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MULTIMEDIA SYSTEMS AND EQUIPMENT – COLOUR MEASUREMENT AND MANAGEMENT –

Part 2-1: Colour management – Default RGB colour space – sRGB

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61966-2-1 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

FDIS	Report on voting
100/104/FDIS	100/114/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

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

- Part 1: General
- Part 2-1: Colour management – Default RGB colour space – sRGB
- Part 3: Equipment using cathode ray tubes
- Part 4: Equipment using liquid crystal display panels
- Part 5: Equipment using plasma display panels
- Part 6: Equipment for use on digital data projections
- Part 7: Colour printers
- Part 8: Colour scanners
- Part 9: Digital cameras
- Part 10: Colour image in network systems
- Part 11: Impaired video in network systems

Annexes A, B, C, D and E are for information only.

The committee has decided that this publication remains valid until 2002. At this date, in accordance with the committee's decision, the publication will be

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

INTRODUCTION

The method of digitisation in this part of IEC 61966 is designed to complement current colour management strategies by enabling a method of handling colour in the operating systems, device drivers and the Internet that utilises a simple and robust device-independent colour definition. This will provide good quality and backward compatibility with minimum transmission and system overhead. Based on a calibrated colorimetric RGB colour space well suited to cathode ray tube (CRT) displays, flat panel displays, television, scanners, digital cameras, and printing systems, such a space can be supported with minimum cost to software and hardware vendors. While there does exist a difference in the underlying physical responses between CRT and flat panel technology, most flat panel displays have internal compensations to simulate CRT displays in order to be commercially viable. The intent is to promote its adoption, by showing the benefits of supporting a standard colour space and the suitability of this standard colour space, sRGB.

Recently, the International Color Consortium has proposed breakthrough solutions to problems in communicating colour in open systems. Yet the ICC profile format does not provide a complete solution for all situations.

Currently, the ICC has one means of tracking and ensuring that a colour is correctly mapped from the input to the output colour space. This is done by attaching a profile for the input colour space to the image in question. This is appropriate for the high-quality publishing industry. However, there is a broad range of users who do not require this level of flexibility and control in an embedded profile mechanism. Instead, it is possible to create a single, standard default colour-space definition that can be processed as an implicit ICC sRGB profile. Additionally, most existing file formats do not, and may never, support colour profile embedding, and finally, there is a broad range of uses that actually discourage people from appending any extra data to their files. A common standard RGB colour space addresses these issues and is useful and necessary. This approach maintains the advantage of a clear relationship with ICC colour management systems while minimising software processes and support requirements.

Application developers and users who do not want the overhead of embedding profiles with documents or images should convert them to a common colour space for storage. Currently, there is a plethora of RGB CRT-based colour spaces attempting to fill this void with little guidance or attempts at standardisation. There is a need to merge the many standard and non-standard RGB display spaces into a single standard RGB colour space. This standard dramatically improves the colour fidelity in the desktop environment by meeting this need. For example, if operating system vendors provide support for this standard RGB colour space, the input and output device vendors that support this standard colour space could easily and confidently communicate colour without further colour management overhead in the most common situations. The three major factors of this RGB space are the colorimetric RGB definition, the simple exponent value of 2,2, and the well-defined viewing conditions, along with a number of secondary details necessary to enable the clear and unambiguous communication of colour.