

**Multimedia systems and equipment -Colour  
measurement and management - Part 7-1: Colour  
printers -Reflective prints - RGB inputs**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61966-7-1:2003 sisaldab Euroopa standardi EN 61966-7-1:2002 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 15.01.2003 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 61966-7-1:2003 consists of the English text of the European standard EN 61966-7-1:2002.

This standard is ratified with the order of Estonian Centre for Standardisation dated 15.01.2003 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

ICS 33.160.60, 35.180, 37.100.10

displays, files, information technology, marking, measurement, measuring techniques, metafiles, multimedia, printers, properties, reflective, screens, specification (approval), specifications, television, television systems, video equipment, video signals

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**Multimedia systems and equipment -  
Colour measurement and management  
Part 7-1: Colour printers -  
Reflective prints - RGB inputs  
(IEC 61966-7-1:2001)**

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Partie 7-1: Imprimantes couleur -  
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(CEI 61966-7-1:2001)

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Farbmessung und Farbmanagement  
Teil 7-1: Farbdrucker -  
Reflektierende Drucke - RGB-Eingänge  
(IEC 61966-7-1:2001)

This European Standard was approved by CENELEC on 2001-09-01. 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.

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.

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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 document 100/238/FDIS, future edition 1 of IEC 61966-7-1, 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 61966-7-1 on 2001-09-01.

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) 2002-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2004-09-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C and ZA are normative and annexes D, E and F are informative.

Annex ZA has been added by CENELEC.

EN 61966 consists of the following parts under the general title: Multimedia systems and equipment - Colour measurement and management:

- Part 1: General
- Part 2-0: Colour management in multimedia systems
- Part 2-1: Colour management - Default RGB colour space - sRGB
- Part 2-2: Colour management - Extended RGB colour space - sRGB64
- Part 2-3: Colour management - Default YCC colour space - sYCC
- 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 used for digital image projection
- Part 7-1: Colour printers - Reflective prints - RGB inputs
- Part 7-2: Colour printers - Reflective prints - CMYK inputs
- Part 7-3: Colour printers - Transparent prints
- Part 8: Multimedia colour scanners
- Part 9: Digital cameras
- Part 10: Quality assessment - Colour image in network systems
- Part 11: Quality assessment - Impaired video in network systems

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## Endorsement notice

The text of the International Standard IEC 61966-7-1:2001 was approved by CENELEC as a European Standard without any modification.

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## 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-845	1987	International Electrotechnical Vocabulary (IEV) Chapter 845: Lighting	-	-
IEC 61966-2-1	1999	Multimedia systems and equipment - Colour measurement and management Part 2-1: Colour management - Default RGB colour space - sRGB	EN 61966-2-1	2000
ISO/CIE 10526	1999	CIE standard illuminants for colorimetry	-	-
ISO/CIE 10527	1991	CIE standard colorimetric observers	-	-
CIE 15.2	1986	Colorimetry	-	-
ISO 216	1975	Writing paper and certain classes of printed matter - Trimmed sizes - A and B series	-	-

# INTERNATIONAL STANDARD

**IEC**  
**61966-7-1**

First edition  
2001-05

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**Multimedia systems and equipment –  
Colour measurement and management –**

**Part 7-1:  
Colour printers – Reflective prints –  
RGB inputs**



Reference number  
IEC 61966-7-1:2001(E)

## Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

## Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

## Further information on IEC publications

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology. Information relating to this publication, including its validity, is available in the IEC Catalogue of publications (see below) in addition to new editions, amendments and corrigenda. Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is also available from the following:

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# INTERNATIONAL STANDARD

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**61966-7-1**

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Colour measurement and management –**

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RGB inputs**

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Commission Electrotechnique Internationale  
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Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTIMEDIA SYSTEMS AND EQUIPMENT –  
COLOUR MEASUREMENT AND MANAGEMENT –**
**Part 7-1: Colour printers – Reflective prints – RGB inputs**

## 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.
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- 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 61966-7-1 has been prepared by TC 100/TA 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:

FDIS	Report on voting
100/238/FDIS	100/248/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.

Annexes A, B and C form an integral part of this standard.

Annexes D, E and F are for information only.

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

- Part 1: General
- Part 2-0: Colour management in multimedia systems
- Part 2-1: Colour management – Default RGB colour space – sRGB
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- Part 9: Digital cameras
- Part 10: Quality assessment – Colour image in network systems
- Part 11: Quality assessment – Impaired video in network systems

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

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

## INTRODUCTION

This part of IEC 61966 is applicable to characterization of colour printers that produce colour images on opaque substrate corresponding to digital data files in which colour image information is expressed in a red – green – blue colour space. The characterization will be realized by objective measurements to be utilized for colour management in open systems. The measured and reported results are used to relate the equipment-dependent and undefined red – green – blue colour space to the default RGB colour space defined as the sRGB by IEC 61966-2-1. This standard is also applicable to assessment of colour image attributes on reflective prints reproduced from colour digital image files.

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## MULTIMEDIA SYSTEMS AND EQUIPMENT – COLOUR MEASUREMENT AND MANAGEMENT –

### Part 7-1: Colour printers – Reflective prints – RGB inputs

#### 1 Scope

This part of IEC 61966 specifies a set of data in colour digital image files for measurements, sampling of successive prints, measurement conditions and forms of reporting the results so as to make possible the characterization of the colour printer and comparison of the results of measurements. The sets of data for measurements are in colour digital image files expressed in a red – green – blue colour space, to which corresponding colour images are reproduced on reflective substrate. The methods of measurement in this standard are designed to be applicable to reflective colour prints for consumer use. The reflective colour prints may be produced by non-impact colour printers, incorporating such technologies as ink-jet, sublimation transfer, thermal transfer, electro-photography and other similar technologies.

This standard does not specify limiting values for various attributes.

#### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61966. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61966 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050(845):1987, *International Electrotechnical Vocabulary (IEV) – Chapter 845: Lighting* / CIE 17.4: 1987, *International Lighting Vocabulary* (joint IEC/CIE publication)

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

ISO/CIE 10526: 1999, *CIE standard illuminants for colorimetry*

ISO/CIE 10527:1991, *CIE standard colorimetric observers*

CIE 15.2:1986, *Colorimetry*

ISO 216:1975, *Writing paper and certain classes of printed matter – Trimmed sizes – A and B series*

#### 3 Terms and definitions

For the purpose of this part of IEC 61966, terms which relate to lighting in IEC 60050(845)/CIE 17.4 and the following definitions apply.