### SLOVENSKI STANDARD

### SIST EN 61966-6:2006

oct 2006

Večpredstavnostni sistemi in oprema – Merjenje in upravljanje barv – 6. del: Prikazovalniki s prednjo projekcijo

Multimedia systems and equipment – Colour measurement and management – Part 6: Front projection displays

## iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 61966-6:2006</u> https://standards.iteh.ai/catalog/standards/sist/e2bb9517-c050-4702-9b25-d26c8844c44b/sist-en-61966-6-2006

ICS 17.180.20; 33.160.60

Referenčna številka SIST EN 61966-6:2006(en)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

### **EUROPEAN STANDARD**

### EN 61966-6

### NORME EUROPÉENNE EUROPÄISCHE NORM

May 2006

ICS 33.160.60; 17.180.20

English version

# Multimedia systems and equipment Colour measurement and management Part 6: Front projection displays

(IEC 61966-6:2005)

Systèmes et appareils multimédia -Mesure et gestion de la couleur Partie 6: Ecrans de projection frontale (CEI 61966-6:2005) Multimediasysteme und -geräte -Farbmessung und Farbmanagement Teil 6: Elektronische Projektoren für Aufprojektion (IEC 61966-6:2005)

### iTeh STANDARD PREVIEW

This European Standard was approved by CENELEC on 2006-03-01. 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 6-6:2006

https://standards.iteh.ai/catalog/standards/sist/e2bb9517-c050-4702-9b25-

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, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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

#### **Foreword**

The text of the International Standard IEC 61966-6:2005, 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 61966-6 on 2006-03-01 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) 2007-03-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2009-03-01

Annex ZA has been added by CENELEC.

#### **Endorsement notice**

The text of the International Standard IEC 61966-6:2005 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 NOTE Harmonized as EN 61966-2-1:2000 (not modified).

IEC 61966-3 NOTE Harmonized as EN 61966-3:2000 (not modified).

https://standards.iteh.ai/catalog/standards/sist/e2bb9517-c050-4702-9b25-

ISO 9241-8 NOTE Harmonized as EN ISO 9241-8;1997 (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 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>	EN/HD	<u>Year</u>	
IEC 60050-845	1987	International Electrotechnical Vocabulary (IEV) Chapter 845: Lighting	-	-	
IEC 61947	Series	Electronic projection - Measurement and documentation of key performance criteria	EN 61947	Series	
ISO/CIE 10527	1991	CIE standard colorimetric observers	-	-	
CIE 15.2	1986	Colorimetry ch STANDARD PREVIE	Ŵ	-	
(standards.iteh.ai)					

# iTeh STANDARD PREVIEW (standards.iteh.ai)

# INTERNATIONAL STANDARD

IEC 61966-6

First edition 2005-03

Multimedia systems and equipment – Colour measurement and management –

Part 6:

Front projection displays

iTeh STANDARD PREVIEW (standards.iteh.ai)



#### **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:

- IEC Web Site (<u>www.iec.ch</u>)
- Catalogue of IEC publications

The on-line catalogue on the IEC web site (<a href="www.iec.ch/searchpub">www.iec.ch/searchpub</a>) enables you to search by a variety of criteria including text searches, technical committees and date of publication. On-line information is also available on recently issued publications, withdrawn and replaced publications, as well as corrigenda.

• IEC Just Published Standards.iteh.ai)

This summary of recently issued publications (<a href="www.iec.ch/online\_news/"www.iec.ch/online\_news/"justpub">www.iec.ch/online\_news/</a> justpub) is also available by email. Please contact the Customer Service Centre (see below) for further information TEN 61966-6:2006

https://standards.iteh.ai/catalog/standards/sist/e2bb9517-c050-4702-9b25-

• Customer Service Gentre 44c44b/sist-en-61966-6-2006

If you have any questions regarding this publication or need further assistance, please contact the Customer Service Centre:

Email: <u>custserv@iec.ch</u>
Tel: +41 22 919 02 11
Fax: +41 22 919 03 00

# INTERNATIONAL STANDARD

## IEC 61966-6

First edition 2005-03

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

#### Part 6:

Front projection displays

## iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 61966-6:2006</u> https://standards.iteh.ai/catalog/standards/sist/e2bb9517-c050-4702-9b25-d26c8844c44b/sist-en-61966-6-2006

© IEC 2005 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



PRICE CODE



Commission Electrotechnique Internationale

### CONTENTS

FO	REWC	)RD	4
INT	RODU	JCTION	6
1	Scop	e	7
2	Norm	ative references	7
3	Term	s and definitions	7
4	Lette	rs and symbols	8
5	Cond	itions	9
	5.1	Environmental conditions	9
	5.2	Conditions for measurements	9
	5.3	Input digital data	11
6	Meas	urement equipment	11
	6.1	Spectroradiometer	11
	6.2	Colorimeter	
7	Spec	tral characteristics and intensity of the primaries and white	
	7.1	Characteristics to be measured	12
	7.2	Measurement conditions.A.N.D.A.R.D. P.R.E.V.IE.W.	
	7.3	Method of measurement Standards.iteh.ai)  Presentation of results	13
0	7.4	Presentation of results	13
8	Basic	colorimetric characteristics SISTEN 61966-6:2006 Characteristics to be measured/standards/sist/e2bb9517-e050-4702-9b25	14
		Characteristics to be measured standards sixt/e2bb9517-e050-4702-9b25	
	8.2 8.3	Presentation of results	
9		characteristics	
9	9.1	Characteristics to be measured	
	9.1	Measurement conditions	
	9.3	Method of measurement	
	9.4	Presentation of results	
10	Other	characteristics	
	10.1	Inter-channel dependency	19
		10.1.1 Characteristics to be measured	
		10.1.2 Measurement conditions	20
		10.1.3 Method of measurement	20
		10.1.4 Presentation of results	22
	10.2	Spatial non-uniformity	
		10.2.1 Characteristics to be measured	
		10.2.2 Measurement conditions	
		10.2.3 Method of measurement	
		10.2.4 Presentation of results	27
Bibl	iograp	phy	30
Ei~:	ıro 1	Equipment arrangement for measurements (side view)	10
_		- Equipment arrangement for measurements (side view)	10

Figure 3 – Example of the spectral radiance distributions $r(\lambda), g(\lambda), b(\lambda)$		
Figure 4 – Measured points and interpolated curves	17	
	00	
Figure 5 – Measurement points for spatial non-uniformity (25 points)	23	
Figure 6 – Measurement points for spatial non-uniformity (9points)	25	
Figure 7 – Measurement points for spatial non-uniformity (13 points)	26	
Table 1 – Input data for peak primaries and peak white	13	
Table 2 – Example of reporting form for colours in maximum excitations	14	
Table 3 – Example of reporting form	15	
Table 4 – Example set of basic normalized data for tone characteristics	18	
Table 5 – Digital driving levels to generate colour patches for measurement of interchannel dependency	20	
Table 6 – Example of normalized tristimulus values (matrix A)	22	
Table 7 – Example of reporting form	28	
Table 8 – Example of reporting form	28	
Table 9 – Example of reporting form	29	

# iTeh STANDARD PREVIEW (standards.iteh.ai)

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### Part 6: Front projection displays

#### **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.
- The formal decisions or agreements of 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

  SIST EN 61966-6:2006
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Rublication 6-6-2006
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61966-6 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
100/835/CDV	100/915/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.