STN	Multimediálne systémy a zariadenia. Multimediálne e-publikovanie a e-knihy. Štruktúra na zvukovú prezentáciu tlačených textov.	STN EN 62665
		36 8071

Multimedia systems and equipment - Multimedia e-publishing and e-books technologies - Texture map for auditory presentation of printed texts

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/16

Obsahuje: EN 62665:2016, IEC 62665:2015

Oznámením tejto normy sa od 15.01.2019 ruší STN EN 62665 (36 8071) z novembra 2012

#### 123178

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2016 Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

# EUROPEAN STANDARD

NORME EUROPÉENNE

# EUROPÄISCHE NORM

March 2016

EN 62665

ICS 33.160.60; 35.240.20; 35.240.30

Supersedes EN 62665:2012

**English Version** 

# Multimedia systems and equipment - Multimedia e-publishing and e-books technologies - Texture map for auditory presentation of printed texts (IEC 62665:2015)

Systèmes et appareils multimédia - Technologies de l'édition électronique multimédia et des livres électroniques - Carte de texture pour la présentation auditive de textes imprimés (IEC 62665:2015) Multimediageräte und -systeme - Multimedia e-publishing und e-book Technologien -Textur Abbildung für die auditive Darstellung von gedruckten Texten (IEC 62665:2015)

This European Standard was approved by CENELEC on 2016-01-15. 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

# European foreword

The text of document 100/2431/CDV, future edition 2 of IEC 62665, prepared by Technical Area 10 "Multimedia e-publishing and e-book technologies" of IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62665:2016.

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)	2016-10-15
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-01-15

This document supersedes EN 62665:2012.

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 62665:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62875:2015

NOTE Harmonized as EN 62875:2015.



# **IEC 62665**

Edition 2.0 2015-12

# INTERNATIONAL STANDARD



Multimedia systems and equipment – Multimedia e-publishing and e-book technologies –Texture map for auditory presentation of printed texts





# THIS PUBLICATION IS COPYRIGHT PROTECTED Copyright © 2015 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, 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 either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office	Tel.: +41 22 919 02 11
3, rue de Varembé	Fax: +41 22 919 03 00
CH-1211 Geneva 20	info@iec.ch
Switzerland	www.iec.ch

#### About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

#### About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

#### IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

#### IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

#### IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

#### Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### IEC Glossary - std.iec.ch/glossary

More than 60 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

#### IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.



# **IEC 62665**

Edition 2.0 2015-12

# INTERNATIONAL STANDARD



Multimedia systems and equipment – Multimedia e-publishing and e-book technologies –Texture map for auditory presentation of printed texts

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 33.160.60; 35.240.20; 35.240.30

ISBN 978-2-8322-3043-5

Warning! Make sure that you obtained this publication from an authorized distributor.

# CONTENTS

FOREWORD4			
INTRODU	ICTION	6	
1 Scop	e	7	
2 Term	is and definitions	7	
3 Textu	иге тар	7	
3.1	Names of elements	7	
3.2	Size and data volume	9	
3.3	Encoding scheme of a texture map from texts	9	
3.3.1	General	9	
3.3.2	Processing by SpeechioEncode function	11	
3.3.3	Processing by SpeechioSymbol function	12	
3.4	Decoding scheme of a texture map to texts	13	
3.5	Example of use of the functions	15	
4 Print	ing of texture map image	16	
4.1	General	16	
4.2	Size of image	16	
4.3	Position of the texture map and margin on paper	16	
Annex A (	(informative) Input processing (Japanese texts)	19	
A.1	General	19	
A.2	Removal of control codes for text	19	
A.3	Specification of particular pronunciation of Kanji	19	
A.4	Specification of voice properties	19	
Annex B (	informative) Input processing (English texts)	22	
Annex C (	(informative) Notch, auditory presentation equipment, and etc	23	
C.1	Notch to designate a texture map position	23	
C.2	Printing paper	23	
C.3	Printing and printer	23	
C.4	Сору	24	
C.5	Extension to a texture map	24	
C.6	Examples of auditory presentation equipment	25	
Annex D ( field GE(2	Informative) Example of Reed Solomon error correction encoding using Galois	27	
Ribliogram	shv	 42	
Dibilograp		72	
Figure 1 -	- Shape and elements of a texture map	8	
Figure 2 -	- Process of generating texture map from texts	10	
Figure 3 -	- Process of text-decoding from texture man	14	
Figuro 4	Positioning of texture man and margin in paper	17	
		17	
rigure 5 -	Figure 5 – Example of texture map arrangement		
Figure C.1 – Notch to designate a texture map position23			
Figure C.2	Figure C.2 – A texture map with broken alignment lines on two sides		
Figure C.3 – A texture map with broken alignment lines on four sides			
Figure C.4	4 – An example of auditory presentation equipment: Speechio <sup>TM</sup>	25	
Figure C.	5 – Another example of auditory presentation equipment: Speechio Plus <sup>TM</sup>	26	

Table 1 – Sizes and data volume of texture maps	9
Table 2 – Size of printed texture map	16
Table A.1 – Control codes for speech	20
Table A.2 – Characters (character strings) for identifying the end of a sentence	21
Table B.1 – Characters (character strings) for identifying the end of a sentence	22
Table B.2 – Abbreviation or acronym with "."	22

- 4 -

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

## MULTIMEDIA SYSTEMS AND EQUIPMENT – MULTIMEDIA E-PUBLISHING AND E-BOOK TECHNOLOGIES – TEXTURE MAP FOR AUDITORY PRESENTATION OF PRINTED TEXTS

### 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 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.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 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.

International Standard IEC 62665 has been prepared by technical area 10: Multimedia e-publishing and e-book technologies, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2012 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

- a) Two different control codes are described by the different terms: "control codes for text" and "control codes for speech".
- b) Pack processing and LZSS processing are shown in their additional subclauses.
- c) An example of the header file "Speechio.h" is added.
- d) An example of error correction encoding is shown in additional Annex D.

IEC 62665:2015 © IEC 2015

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

CDV	Report on voting
100/2431/CDV	100/2507/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.

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.

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

- 6 -

Information interchange via printed documents between blind or visually impaired people has been carried out by using Braille. However, in order to be able to read Braille, particular tuition is required. Learning Braille is very difficult for aged as well as visually non-impaired people.

Printed documents with texts and text-encoded texture maps can be interchanged by ordinary circulation or publication mechanisms. They are readable as ordinary printed materials and comprehensible by blind or visually impaired people with the support of decoding and auditory presentation equipment.

Today, interchanging of printed documents has become wide-spread and international. The text-encoding scheme to generate a texture map should therefore be standardized at an international level.

### Patent

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents as listed below:

PATENT No. 3499220 (Japan) PATENT No. 4439756 (Japan) PATENT No. 4744745 (Japan) PATENT No. 4772631 (Japan)

IEC takes no position concerning the evidence, validity and scope of these patent rights.

The holder of these patent rights has assured the IEC that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of these patent rights is registered with IEC. Information may be obtained from:

Original Design Inc. 4-16-2 Ikebukuro, Toshima-ku Tokyo 171-0014 Japan

Kosaido Co., Ltd. 4-6-12 Shiba, Minato-ku Tokyo 108-8378 Japan

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

ISO (www.iso.org/patents) and IEC (http://patents.iec.ch) maintain on-line data bases of patents relevant to their standards. Users are encouraged to consult the data bases for the most up to data information concerning patents.

#### - 7 -

# MULTIMEDIA SYSTEMS AND EQUIPMENT – MULTIMEDIA E-PUBLISHING AND E-BOOK TECHNOLOGIES – TEXTURE MAP FOR AUDITORY PRESENTATION OF PRINTED TEXTS

### 1 Scope

In order to generate a texture map for auditory presentation of printed text information, this International Standard specifies

- a text encoding scheme to generate a texture map,
- a physical shape and dimension of the texture map for printing,
- additional features for texture map printing,
- texture map decoding and an auditory presentation of decoded texts.

These specifications enable the interchange of documents and publications between visually impaired and non-impaired people.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN