IEC 62448

Edition 4.0 2017-11
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Multimedia systems and equipment – Multimedia E-publishing and E-books – Generic format for E-publishing

iTeh Standards
(https://standards.iteh.ai)
Document Preview

IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

IEC 62448:2017-11 RLV(en)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2017 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
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
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 It also gives information on projects, replaced and withdrawn publications.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 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
65 000 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 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

IEC 62448

Edition 4.0 2017-11
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Multimedia systems and equipment – Multimedia E-publishing and E-books – Generic format for E-publishing

iTeh Standards
(https://standards.iteh.ai)
Document Preview

IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.160.60; 35.240.30

ISBN 978-2-8322-5102-7

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

® Registered trademark of the International Electrotechnical Commission

CONTENTS

FOREWORD 10
INTRODUCTION 12
1 Scope 13
2 Normative references 13
3 Terms and definitions 13
4 Position and requirements for generic format 14
4.1 Generic format in contents creation/distribution model 14
4.2 Requirements for generic format 14
5 Notation 14
6 Logical structure 14
7 Semantics 17
Annex A (normative) BBeB Xylog format 18
A.1 General 18
A.2 Structure description 18
A.3 Block layout 37
A.3.1 Layout 37
A.3.2 Block 37
A.3.3 Coordinate system 38
A.4 Terminology 38
A.4.1 Page layout 38
A.4.2 Block layout 39
A.4.3 Data types 40
A.5 Elements and attributes 41
A.5.1 BBeBXylog 41
A.5.2 BookInformation 41
A.5.3 Info 41
A.5.4 BookInfo 42
A.5.5 Title 42
A.5.6 Author 42
A.5.7 BookID 42
A.5.8 Publisher 42
A.5.9 Label 43
A.5.10 Category 43
A.5.11 Classification 43
A.5.12 FreeText 43
A.5.13 DocInfo 43
A.5.14 Cthumbnail 43
A.5.15 Language 43
A.5.16 Creator 43
A.5.17 SumPage 44
A.5.18 Keyword 44
A.5.19 TOC 44
A.5.20 TocLabel 44
A.5.21 Main 44
A.5.22 Page 44

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

A.5.23 Wait 48
A.5.24 TextBlock 48
A.5.25 P 55
A.5.26 Plot 56
A.5.27 CR 57
A.5.28 Fill 57
A.5.29 Space 57
A.5.30 CharButton 57
A.5.31 Rubi 57
A.5.32 Oyamoji 57
A.5.33 Gaiji 58
A.5.34 AltString 58
A.5.35 Org 58
A.5.36 Alt 58
A.5.37 Rubimoji 58
A.5.38 Box 58
A.5.39 EmpDots 59
A.5.40 EmpLine 60
A.5.41 Sub 60
A.5.42 Sup 60
A.5.43 Yoko 60
A.5.44 Tate 60
A.5.45 Nekase 60
A.5.46 NoBR 60
A.5.47 DrawChar 60
A.5.48 Italic 61
A.5.49 Bold 61
A.5.50 ImageBlock 61
A.5.51 ButtonBlock 64
A.5.52 BaseButton 66
A.5.53 FocusinButton 67
A.5.54 JumpTo 67
A.5.55 Run 67
A.5.56 SoundStop 68
A.5.57 CloseWindow 68
A.5.58 PushButton 68
A.5.59 UpButton 68
A.5.60 Canvas 69
A.5.61 PutObj 70
A.5.62 Moveto 71
A.5.63 Lineto 71
A.5.64 DrawBox 72
A.5.65 DrawEllipse 73
A.5.66 RuledLine 74
A.5.67 Style 74
A.5.68 BookStyle 74
A.5.69 SetDefault 75
A.5.70 RegistFont 76
A.5.71 BookSetting 77

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa080ee-2daa-4b9a-8d5d-7a2555b8a487/iec-62448-2017

A.5.72 TextStyle ... 78
A.5.73 BlockStyle ... 82
A.5.74 PageStyle ... 84
A.5.75 Objects ... 87
A.5.76 Window ... 87
A.5.77 PopUpWin ... 88
A.5.78 Sound ... 88
A.5.79 SoundStream ... 89
A.5.80 ImageStream ... 89
A.5.81 Header ... 90
A.5.82 Footer ... 91
A.5.83 eSound ... 92
A.5.84 Font ... 92
A.5.85 Image ... 93
A.5.86 Button ... 94
A.6 Reserved elements ... 94
A.6.1 General ... 94
A.6.2 ShowOrder ... 94
A.6.3 SetText ... 94
A.6.4 div ... 94
A.6.5 SendMessage ... 95
A.6.6 SimpleTextBlock ... 95
A.6.7 MoveObj ... 95
A.6.8 ViewPoint ... 95
A.6.9 MiniPage ... 95
A.6.10 PageDiv ... 95
A.6.11 BlockList ... 95
A.6.12 Text ... 95
A.6.13 SimpleText ... 95
A.6.14 Locate ... 95
A.6.15 Import ... 95
A.6.16 ObjLink ... 95
A.6.17 FileLink ... 95
A.6.18 Solo ... 96
A.6.19 Pages ... 96
A.6.20 Template ... 96
A.6.21 TemplateSet ... 96
A.6.22 PlotText ... 96
A.6.23 AutoSpacing ... 96
A.6.24 Span ... 96
A.6.25 Property ... 96
Annex B (normative) XMDF XML format ... 97
B.1 General ... 97
B.2 Overview of the format's structure ... 97
B.3 Elements and attributes ... 98
B.3.1 General ... 98
B.3.2 Page_ID ... 98
B.3.3 Object_ID ... 99
B.3.4 Char_ID ... 99

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ee-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

B.3.5 Reading 99
B.3.6 Filename 99
B.3.7 Standard character 100
B.3.8 Standard character string 100
B.3.9 Extended character 100
B.3.10 Extended character string 101
B.3.11 External character 101
B.3.12 External character string 102
B.3.13 External extended character string 102
B.3.14 Coordinates 102
B.3.15 Polygonal_region 103
B.3.16 Colour 103
B.3.17 Date 104
B.3.18 Time 104
B.3.19 Country 104
B.3.20 Personal_name 104
B.3.21 Organization_name 105
B.3.22 Address 105
B.3.23 Permission 106
B.3.24 Keyword 106
B.3.25 Telephone_number 107
B.3.26 Mail_address 107
B.4 Description format details 108
B.4.1 General 108
B.4.2 Book information modules ~~<~~bvf~~>~~ 109
B.4.3 Bibliographic ~~<~~data book_info~~>~~ 109
B.4.4 Content management module ~~<~~body_module~~>~~ 115
B.4.5 Event info module ~~<~~event_info~~>~~ 129
B.4.6 Parts data module ~~<~~parts_module~~>~~ 134
B.4.7 Object instances 139
B.5 Colour names ~~(normative)~~ 196
B.6 Localization ~~(informative)~~ 197
B.6.1 Possible additions 197
B.6.2 Standard characters 197
B.6.3 Characters usable for reading 198
B.6.4 Sorting rules for ~~<~~search_table_def~~>~~ 198
B.6.5 Additional attributes for ~~<~~enable_key_type~~>~~ 199
B.7 Specification of the XMDF XML format in the RELAX NG compact syntax 199
B.7.1 General 199
B.7.2 ~~Tags~~ Elements and attributes for object instances, bibliographic data and other data for content structure 199
B.7.3 ~~Tags~~ Elements and attributes for dictionary data object instance 228
B.7.4 ~~Tags~~ Elements and attributes for text object instance 2 234
Annex C (normative) ESP format 247
C.1 General 247
C.2 Overview 247
C.2.1 Content structure 247
C.2.2 XML files 248
C.2.3 The relationship between body data and style data 248

iTeh Standards
(https://standards.iteh.ai)
Document Preview

C.2.4 Character codes 249
C.2.5 Line break codes 249
C.2.6 Coding precautions 249
C.2.7 Restrictions 250
C.3 ~~Tags~~ Elements and attributes 251
C.3.1 General 251
C.3.2 Common ~~tags~~ elements 252
C.3.3 Text-related ~~tags~~ elements 254
C.3.4 Dictionary-related ~~tags~~ elements 270
C.3.5 Search-table related ~~tags~~ elements 275
C.3.6 Comic-related ~~tags~~ elements 278
C.3.7 Bibliography data ~~tags~~ elements 283
C.3.8 Global settings data ~~tags~~ elements 288
C.3.9 Table of contents/item data ~~tags~~ elements 289
C.3.10 Animation data ~~tags~~ elements 291
C.4 Style data 292
C.4.1 General 292
C.4.2 Properties 292
C.4.3 Property-selector combinations 303
C.5 Comments to specifications 312
C.5.1 Block ~~tag~~ element behaviour 312
C.5.2 Style data parsing 313
C.5.3 Folder structure 314
C.5.4 Indicating vendor-specific information 315
C.5.5 Minimum/small/medium/large/maximum values that indicate text size, text spacing, and line spacing 316
C.5.6 Font size descriptions 316
C.6 Colour names 316
C.7 Specification of ESP format in the RELAX NG compact syntax 317
Bibliography 351

Figure 1 – Contents creation/distribution model 14
Figure A.1 – Conceptual diagram of the "Block layout" 37
Figure A.2 – Coordinate system 38
Figure A.3 – Page layout composition 39
Figure A.4 – Block layout composition 40
Figure A.5 – Bgimagemode attribute 46
Figure A.6 – Layout attribute 47
Figure B.1 – XML tree structure 98
Figure B.2 – Example of valign="middle" 141
Figure B.3 – Example of dropped capital 145
Figure B.4 – Left and right margin of a paragraph 146
Figure B.5 – Horizontal writing in vertical text 149
Figure B.6 – Ruby 149
Figure B.7 – Example of search page object instance rendering 171
Figure B.8 – Comic object Instance 175
Figure C.1 – Content XML file example 248

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa98fec-2daa-4b9a-8d5d-7a5355b1a415/iec-62448-2017

Figure C.2 – Style data example 249
Figure C.3 – ~~Tags~~ Element coding example 249
Figure C.4 – Numbers that indicate the origin point for the absolute position on the page 252
Figure C.5 – ~~<~~section~~> tag~~ element coding example 253
Figure C.6 – Content/page progression directions 314
Figure C.7 – Folder (directory) structure example 315

Table A.1 – Data types 41
Table A.2 – Attribute of BBeBXylog 41
Table A.3 – Attribute of Info 41
Table A.4 – Attribute of Title 42
Table A.5 – Attribute of Author 42
Table A.6 – Attribute of Publisher 42
Table A.7 – Attribute of Label 43
Table A.8 – Attribute of Cthumbnail 43
Table A.9 – Attribute of TocLabel 44
Table A.10 – Attribute of Page 45
Table A.11 – Attribute of Wait 48
Table A.12 – Attribute of TextBlock 49
Table A.13 – rubyalign attribute 51
Table A.14 – rubyadjust attribute 52
Table A.15 – rubyoverhang attribute 52
Table A.16 – empdotsposition attribute 52
Table A.17 – emplineposition attribute 53
Table A.18 – emplinetype attribute 53
Table A.19 – align attribute 53
Table A.20 – blockrule attribute 54
Table A.21 – Attribute of P 56
Table A.22 – Attribute of Plot 56
Table A.23 – Attribute of Fill 57
Table A.24 – Attribute of Space 57
Table A.25 – Attribute of CharButton 57
Table A.26 – Attribute of Gaiji 58
Table A.27 – Attribute of Box 59
Table A.28 – linetype attribute 59
Table A.29 – Attribute of EmpDots 59
Table A.30 – Attribute of Empline 60
Table A.31 – Attribute of DrawChar 61
Table A.32 – Attribute of ImageBlock 62
Table A.33 – Attribute of ButtonBlock 65
Table A.34 – Attribute of BaseButton 66
Table A.35 – Attribute of FocusinButton 67

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017

Table A.36 – Attribute of JumpTo 67
Table A.37 – Attribute of Run 67
Table A.38 – runoption attribute 68
Table A.39 – Attribute of PushButton 68
Table A.40 – Attribute of UpButton 68
Table A.41 – Attribute of Canvas 69
Table A.42 – Attribute of PutObj 70
Table A.43 – Attribute of Moveto 71
Table A.44 – Attribute of Lineto 71
Table A.45 – arrowtype attribute 72
Table A.46 – Attribute of DrawBox 72
Table A.47 – Attribute of DrawEllipse 73
Table A.48 – Attribute of RuledLine 74
Table A.49 – Attribute of BookStyle 75
Table A.50 – Attribute of SetDefault 75
Table A.51 – setwaitprop attribute 76
Table A.52 – Attribute of RegistFont 77
Table A.53 – Attribute of BookSetting 77
Table A.54 – Attribute of TextStyle 79
Table A.55 – Attribute of BlockStyle 83
Table A.56 – Attribute of PageStyle 85
Table A.57 – Attribute of Window 87
Table A.58 – Attribute of PopUpWin 88
Table A.59 – Attribute of Sound 88
Table A.60 – Attribute of SoundStream 89
Table A.61 – Attribute of ImageStream 90
Table A.62 – Attribute of Header 90
Table A.63 – Attribute of Footer 91
Table A.64 – Attribute of eSound 92
Table A.65 – Attribute of Font 92
Table A.66 – Attribute of Image 93
Table A.67 – Attribute of Button 94
Table B.1 – Base characters for reading 99
Table B.2 – Examples of standard character sets 100
Table B.3 – Usable characters for a telephone number 107
Table B.4 – Characters usable for email addresses 108
Table B.5 – Characters usable for the lookup key 127
Table B.6 – Colour names 197
Table B.7 – Examples of standard character sets for different languages 198
Table B.8 – Example of additional characters usable for readings for different languages 198
Table B.9 – Example of additional sorting rules 199
Table B.10 – Example of additional language specific attributes for <enable_key_type> 199

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

Table C.1 – ESP format structure....248
Table C.2 – Usable line break codes....249
Table C.3 – Half-width symbols for file names....250
Table C.4 – Notations....251
Table C.5 – Property-selector correnspondence....304
Table C.6 – ~~Tags~~ Elements that make independent blocks....313
Table C.7 – Property parsing....313
Table C.8 – An example of conversion to numeric values....316
Table C.9 – Colour names....317

iTeh Standards
(https://standards.iteh.ai)
Document Preview

IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

MULTIMEDIA SYSTEMS AND EQUIPMENT – MULTIMEDIA E-PUBLISHING AND E-BOOKS – GENERIC FORMAT FOR E-PUBLISHING

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.
2) 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.
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.

IECNORM.COM : Click to view the full PDF of IEC 62448:2017
Withdrawn
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/0aa98f0ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 62448 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 fourth edition cancels and replaces the third edition published in 2013. This edition constitutes a technical revision.

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

a) clarifying insufficiently clear descriptions;
b) deleting redundant statements;
c) ironing out mistakes and confusing terminologies.

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

CDV	Report on voting
100/2921/CDV	100/2987/RVC

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

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

In this standard, the following print type is used:

- **terms, elements, properties and attributes used and defined in Annex A and Annex C: bold type.**

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

iTeh Standards
(https://standards.iteh.ai)
Document Preview
IEC 62448:2017
https://standards.iteh.ai/catalog/standards/iec/...b9a-8d5d-7a5355bfa4f5/iec-62448-2017

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 publication using a colour printer.

INTRODUCTION

Markets for multimedia e-book and e-publishing require standardization of formats for e-book data interchange among associated people; authors, data preparers, publishers and readers. The formats are classified into submission format, generic format and reader's format. The submission format has to support an interaction between authors and data preparers. The reader's format depends on e-publishing equipment. The generic format has to provide an interchange format for data preparers and publishers and therefore should be e-publishing equipment independent.

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.

Sony Corporation has informed IEC that it has patent applications or granted patents.

IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right 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 this patent right is registered with IEC. Information may be obtained from:

Sony Corporation

1-7-1 Konan, Minato-ku, Tokyo 108-0075, Japan

Sharp Corporation has informed IEC that it has patent applications or granted patents.

IEC takes no position concerning the evidence, validity and scope of this patent right.

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

Sharp Corporation

2613-1, Ichinomoto-cho, Tenri, Nara 632-8587, 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 date information concerning patents.

iTeh Standards
(https://standards.iteh.ai)
Document Preview
https://standards.iteh.ai/catalog/standards/iec/0aa980ec-2daa-4b9a-8d5d-7a5355bfa4f5/iec-62448-2017