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**Information technology — Coding of
audio-visual objects —**

**Part 22:
Open Font Format**

*Technologies de l'information — Codage des objets audiovisuels —
Partie 22: Format de police de caractères ouvert*

Withhold



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Contents

Page

Foreword	viii
Introduction.....	x
1 Scope	1
2 Normative references	2
3 Abbreviated terms	2
4 The Open font file format	3
4.1 Description	3
4.2 Filenames	3
4.3 Data types	3
4.4 Table version numbers	4
4.5 Open font structure	5
4.5.1 Table directory	5
4.5.2 Calculating checksums	6
4.6 Font collections	6
4.6.1 The Font Collection file structure	7
4.6.2 TTC header	7
5 Open font tables	8
5.1 General	8
5.2 Required common tables	8
5.2.1 cmap – Character to glyph index mapping table	9
5.2.2 head – Font header	20
5.2.3 hhea – Horizontal header	22
5.2.4 hmtx – Horizontal metrics	23
5.2.5 maxp – Maximum profile	23
5.2.6 name – Naming table	24
5.2.7 OS/2 – Global font information table	43
5.2.8 Font class parameters - see informative Annex B for details	65
5.2.9 post – PostScript	65
5.3 TrueType outline tables	67
5.3.1 cvr – Control value table	68
5.3.2 fgm – Font program	68
5.3.3 glyf – Glyph data	68
5.3.4 loca – Index to location	71
5.3.5 prep – Control value program	72
5.3.6 gasp – Grid-fitting and scan conversion procedure	72
5.4 PostScript outline tables	74
5.4.1 CFF – PostScript font program (Compact Font Format) table	74
5.4.2 VORG – Vertical origin table	74
5.5 Table for SVG glyph outlines	76
5.5.1 SVG – The SVG (Scalable Vector Graphics) table	76
5.5.2 Color Palettes	77
5.5.3 Glyph Identifiers	77
5.5.4 Glyph Semantics and Metrics	78
5.5.5 Glyph Rendering	78
5.6 Bitmap glyph tables	80
5.6.1 EBDT – Embedded bitmap data table	80
5.6.2 EBLC – Embedded bitmap location table	84
5.6.3 EBSC – Embedded bitmap scaling table	91
5.6.4 CBDT – Color bitmap data table	92

5.6.5	CBLC – Color bitmap location table	94
5.7	Optional tables	95
5.7.1	DSIG – Digital signature table	96
5.7.2	hdmx – Horizontal device metrics	98
5.7.3	kern – Kerning	99
5.7.4	LTSH – Linear threshold	102
5.7.5	PCLT – PCL 5 table	103
5.7.6	VDMX – Vertical device metrics	111
5.7.7	vhea – Vertical header table	114
5.7.8	vmtx – Vertical metric table	117
5.7.9	COLR – Color Table	119
5.7.10	CPAL – Palette Table	121
6	Advanced Open Font layout tables	123
6.1	Advanced Open Font layout extensions	123
6.1.1	Overview of advanced typographic layout extensions	123
6.1.2	TrueType versus OFF layout	125
6.1.3	OFF layout terminology	125
6.1.4	Text processing with OFF layout	128
6.2	OFF layout common table formats	129
6.2.1	Overview	129
6.2.2	Table organization	131
6.2.3	Scripts and languages	132
6.2.4	Features and lookups	134
6.2.5	Common table examples	143
6.3	Advanced typographic tables	152
6.3.1	BASE Baseline table	152
6.3.2	GDEF – The glyph definition table	173
6.3.3	GPOS – The glyph positioning table	186
6.3.4	GSUB – The glyph substitution table	246
6.3.5	JSTF – The justification table	286
6.3.6	MATH – The mathematical typesetting table	298
6.4	Layout tag registry	313
6.4.1	Scripts tags	313
6.4.2	Language tags	317
6.4.3	Feature tags	338
6.4.4	Baseline tags	402
7	Recommendations for OFF fonts	407
7.1	Byte ordering	407
7.2	'sfnt' version	407
7.3	Mixing outline formats	407
7.4	Filenames	407
7.5	Table alignment and length	407
7.6	First four glyphs in fonts	408
7.7	Shape of .notdef glyph	408
7.8	'BASE' table	408
7.9	'cmap' table	409
7.10	'cvt' table	409
7.11	'fpgm' table	409
7.12	'glyf' table	409
7.13	'hdmx' table	409
7.14	'head' table	410
7.15	'hhea' table	410
7.16	'hmtx' table	410
7.17	'kern' table	410
7.18	'loca' table	411
7.19	'LTSH' table	411
7.20	'maxp' table	411
7.21	'name' table	411
7.22	'OS/2' table	413

7.23	sTypoAscender, sTypoDescender and sTypoLineGap.....	413
7.24	'post' table.....	413
7.25	'prep' table.....	414
7.26	'VDMX' table.....	414
7.27	TrueType Collections.....	414
8	General recommendations.....	414
8.1	Optimized table ordering.....	414
8.2	Non-standard (Symbol) fonts.....	414
8.3	Device resolutions.....	415
8.4	Baseline to baseline distances.....	415
8.5	Style bits.....	416
8.6	Drop-out control.....	416
8.7	Embedded bitmaps.....	416
8.8	OFF CJK font guidelines.....	417
Annex A (informative) Patent Statements.....		418
Annex B (informative) Font Class and Font Subclass parameters.....		419
B.1	Introduction.....	419
B.2	sFamilyClass.....	419
B.3	Class ID=0 No Classification.....	419
B.4	Class ID=1 Oldstyle Serifs.....	419
B.4.1	Subclass ID = 0 : No Classification.....	419
B.4.2	Subclass ID = 1 : IBM Rounded Legibility.....	420
B.4.3	Subclass ID = 2 : Galalde.....	420
B.4.4	Subclass ID = 3 : Venetian.....	420
B.4.5	Subclass ID = 4 : Modified Venetian.....	420
B.4.6	Subclass ID = 5 : Dutch Modern.....	420
B.4.7	Subclass ID = 6 : Dutch Traditional.....	420
B.4.8	Subclass ID = 7 : Contemporary.....	420
B.4.9	Subclass ID = 8 : Calligraphic.....	420
B.4.10	Subclass ID = 9-14 : (reserved for future use).....	420
B.4.11	Subclass ID = 15 : Miscellaneous.....	421
B.5	Class ID=2 Transitional Serifs.....	421
B.5.1	Subclass ID = 0 : No Classification.....	421
B.5.2	Subclass ID = 1 : Direct Line.....	421
B.5.3	Subclass ID = 2 : Script.....	421
B.5.4	Subclass ID = 3-14 : (reserved for future use).....	421
B.5.5	Subclass ID = 15 : Miscellaneous.....	421
B.6	Class ID=3 Modern Serifs.....	421
B.6.1	Subclass ID = 0 : No Classification.....	421
B.6.2	Subclass ID = 1 : Italian.....	422
B.6.3	Subclass ID = 2 : Script.....	422
B.6.4	Subclass ID = 3-14 : (reserved for future use).....	422
B.6.5	Subclass ID = 15 : Miscellaneous.....	422
B.7	Class ID=4 Clarendon Serifs.....	422
B.7.1	Subclass ID = 0 : No Classification.....	422
B.7.2	Subclass ID = 1 : Clarendon.....	422
B.7.3	Subclass ID = 2 : Modern.....	422
B.7.4	Subclass ID = 3 : Traditional.....	422
B.7.5	Subclass ID = 4 : Newspaper.....	423
B.7.6	Subclass ID = 5 : Stub Serif.....	423
B.7.7	Subclass ID = 6 : Monotone.....	423
B.7.8	Subclass ID = 7 : Typewriter.....	423
B.7.9	Subclass ID = 8-14: (reserved for future use).....	423
B.7.10	Subclass ID = 15 : Miscellaneous.....	423
B.8	Class ID=5 Slab Serifs.....	423
B.8.1	Subclass ID = 0 : No Classification.....	423
B.8.2	Subclass ID = 1 : Monotone.....	423
B.8.3	Subclass ID = 2 : Humanist.....	424

B.8.4	Subclass ID = 3 : Geometric	424
B.8.5	Subclass ID = 4 : Swiss	424
B.8.6	Subclass ID = 5 : Typewriter	424
B.8.7	Subclass ID = 6-14 : (reserved for future use)	424
B.8.8	Subclass ID = 15 : Miscellaneous	424
B.9	Class ID=6 (reserved for future use)	424
B.10	Class ID=7 Freeform Serifs	424
B.10.1	Subclass ID = 0 : No Classification	424
B.10.2	Subclass ID = 1 : Modern	425
B.10.3	Subclass ID = 2-14 : (reserved for future use)	425
B.10.4	Subclass ID = 15 : Miscellaneous	425
B.11	Class ID=8 Sans Serifs	425
B.11.1	Subclass ID = 0 : No Classification	425
B.11.2	Subclass ID = 1 : IBM Neo-grotesque Gothic	425
B.11.3	Subclass ID = 2 : Humanist	425
B.11.4	Subclass ID = 3 : Low-x Round Geometric	425
B.11.5	Subclass ID = 4 : High-x Round Geometric	425
B.11.6	Subclass ID = 5 : Neo-grotesque Gothic	426
B.11.7	Subclass ID = 6 : Modified Neo-grotesque Gothic	426
B.11.8	Subclass ID = 7-8 : (reserved for future use)	426
B.11.9	Subclass ID = 9 : Typewriter Gothic	426
B.11.10	Subclass ID = 10 : Matrix	426
B.11.11	Subclass ID = 11-14 : (reserved for future use)	426
B.11.12	Subclass ID = 15 : Miscellaneous	426
B.12	Class ID=9 Ornaments	426
B.12.1	Subclass ID = 0 : No Classification	426
B.12.2	Subclass ID = 1 : Engraver	426
B.12.3	Subclass ID = 2 : Black Letter	427
B.12.4	Subclass ID = 3 : Decorative	427
B.12.5	Subclass ID = 4 : Three Dimensional	427
B.12.6	Subclass ID = 5-14 : (reserved for future use)	427
B.12.7	Subclass ID = 15 : Miscellaneous	427
B.13	Class ID=10 Scripts	427
B.13.1	Subclass ID = 0 : No Classification	427
B.13.2	Subclass ID = 1 : Uncial	427
B.13.3	Subclass ID = 2 : Brush Joined	427
B.13.4	Subclass ID = 3 : Formal Joined	428
B.13.5	Subclass ID = 4 : Monotone Joined	428
B.13.6	Subclass ID = 5 : Calligraphic	428
B.13.7	Subclass ID = 6 : Brush Unjoined	428
B.13.8	Subclass ID = 7 : Formal Unjoined	428
B.13.9	Subclass ID = 8 : Monotone Unjoined	428
B.13.10	Subclass ID = 9-14 : (reserved for future use)	428
B.13.11	Subclass ID = 15 : Miscellaneous	428
B.14	Class ID=11 (reserved for future use)	429
B.15	Class ID=12 Symbolic	429
B.15.1	Subclass ID = 0 : No Classification	429
B.15.2	Subclass ID = 1-2 : (reserved for future use)	429
B.15.3	Subclass ID = 3 : Mixed Serif	429
B.15.4	Subclass ID = 4-5 : (reserved for future use)	429
B.15.5	Subclass ID = 6 : Oldstyle Serif	429
B.15.6	Subclass ID = 7 : Neo-grotesque Sans Serif	429
B.15.7	Subclass ID = 8-14 : (reserved for future use)	429
B.15.8	Subclass ID = 15 : Miscellaneous	430
B.16	Class ID=13 Reserved	430
B.17	Class ID=14 Reserved	430
Annex C	(informative) Earlier versions of OS/2 – OS/2 and Windows metrics	431
C.1	OS/2 - OS/2 and Windows metrics (version 0)	431
C.2	OS/2 - OS/2 and Windows metrics (version 1)	450

C.3	OS/2 - OS/2 and Windows metrics (version 2)	471
C.4	OS/2 - OS/2 and Windows metrics (version 3)	490
C.5	OS/2 - OS/2 and Windows metrics (version 4)	509
Annex D (informative)	OFF Mirroring Pairs List	531
Annex E (normative)	Registration of Media Type: application/font-sfnt	538
Bibliography		541

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This third edition cancels and replaces the second edition (ISO/IEC 14496-22:2009), which has been technically revised. It also incorporates ISO/IEC 14496-22:2009/Cor 1:2010, ISO/IEC 14496-22:2009/Amd 1:2010 and ISO/IEC 14496-22:2009/Amd 2:2010.

ISO/IEC 14496 consists of the following parts, under the general title *Information technology — Coding of audio-visual objects*:

- *Part 1: Systems*
- *Part 2: Visual*
- *Part 3: Audio*
- *Part 4: Conformance testing*
- *Part 5: Reference software*
- *Part 6: Delivery Multimedia Integration Framework (DMIF)*
- *Part 7: Optimized reference software for coding of audio-visual objects*
- *Part 8: Carriage of ISO/IEC 14496 contents over IP networks*

- *Part 9: Reference hardware description*
- *Part 10: Advanced Video Coding*
- *Part 11: Scene description and application engine*
- *Part 12: ISO base media file format*
- *Part 13: Intellectual Property Management and Protection (IPMP) extensions*
- *Part 14: MP4 file format*
- *Part 15: Carriage of network abstraction layer (NAL) unit structured video in ISO base media file format*
- *Part 16: Animation Framework eXtension (AFX)*
- *Part 17: Streaming text format*
- *Part 18: Font compression and streaming*
- *Part 19: Synthesized texture stream*
- *Part 20: Lightweight Application Scene Representation (LAsER) and Simple Aggregation Format (SAF)*
- *Part 21: MPEG-J Graphics Framework eXtensions (GFX)*
- *Part 22: Open Font Format*
- *Part 23: Symbolic Music Representation*
- *Part 24: Audio and systems interaction*
- *Part 25: 3D Graphics Compression Model*
- *Part 26: Audio conformance*
- *Part 27: 3D Graphics conformance*
- *Part 28: Composite Font Representation*
- *Part 29: Web video coding*
- *Part 30: Timed text and other visual overlays in ISO base media file format*

The following part is in preparation:

- *Part 30: Video coding for browsers*

A future part dealing with Internet video coding is planned.

Introduction

The International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

The ISO and IEC take no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured ISO and IEC that he 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 ISO and IEC. Information may be obtained from the companies listed in Annex A.

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Withdrawal

Information technology — Coding of audio-visual objects — Part 22: Open Font Format

1 Scope

This part of ISO/IEC 14496 specifies the Open Font Format (OFF) specification, the TrueType™ⁱ and Compact Font Format (CFF) outline formats, and the TrueType hinting language. Many references to both TrueType and PostScript exist throughout this document, as Open Font Format fonts combine the two technologies.

NOTE This specification is based on the OpenType®ⁱⁱ font format specification, and is technically equivalent to that specification.

Multimedia applications require a broad range of media-related standards. In addition to the typical audio and video applications, multimedia presentations include scalable 2D graphics and text supporting all languages of the world. Faithful reproduction of scalable multimedia content requires additional components including scalable font technology. The Open Font Format is an extension of the TrueType font format, adding support for PostScript font data. OFF fonts and the operating system services which support OFF fonts provide users with a simple way to install and use fonts, whether the fonts contain TrueType outlines or CFF (PostScript) outlines.

The Open Font Format addresses the following goals:

- broader multi-platform support
- excellent support for international character sets
- excellent protection for font data
- smaller file sizes to make font distribution more efficient
- excellent support for advanced typographic control

PostScript®ⁱⁱⁱ data included in OFF fonts may be directly rasterized or converted to the TrueType outline format for rendering, depending on which rasterizers have been installed in the host operating system. But the user model is the same: OFF fonts just work. Users will not need to be aware of the type of outline data in OFF fonts. And font creators can use whichever outline format they feel provides the best set of features for their work, without worrying about limiting a font's usability.

OFF fonts can include the OFF Layout tables, which allow font creators to design broader international and high-end typographic fonts. The OFF Layout tables contain information on glyph substitution, glyph positioning, justification, and baseline positioning, enabling text-processing applications to improve text layout.

As with TrueType fonts, OFF fonts allow the handling of large glyph sets using Unicode encoding. Such encoding allows broad international support, as well as support for typographic glyph variants.

Additionally, OFF fonts may contain digital signatures, which allows operating systems and browsing applications to identify the source and integrity of font files, including embedded font files obtained in web documents, before using them. Also, font developers can encode embedding restrictions in OFF fonts which cannot be altered in a font signed by the developer.

2 Normative references

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.

ISO/IEC 10646, *Information technology — Universal Coded Character Set (UCS)*

ISO/IEC 14496-18, *Information technology — Coding of audio-visual objects — Part 18: Font compression and streaming*

ISO/IEC 15948:2004, *Information technology — Computer graphics and image processing — Portable Network Graphics: Functional specification (also available as W3C Recommendation[15])*

IEC 61966-2-1/Amd 1:2003: *Multimedia systems and equipment — Colour measurement and management — Part 2-1: Colour management — Default RGB colour space — sRGB.*

TrueType Instruction Set, <<http://www.microsoft.com/typography/otspec/ttinst.htm>>

Unicode 7.0, <<http://www.unicode.org/versions/Unicode7.0.0/>>

Scalable Vector Graphics (SVG) 1.1 (2nd edition), W3C Recommendation, 16 August 2011 <<http://www.w3.org/TR/SVG11/>>

Withdrawing