

This is a preview - click here to buy the full publication



IEC 62766-5-2

Edition 1.0 2017-07

INTERNATIONAL STANDARD

**Consumer terminal function for access to IPTV and open internet multimedia services –
Part 5-2: Web standards TV profile**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.170 35.240.95

ISBN 978-2-8322-4621-4

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

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviated terms	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	10
4 Overview	10
4.1 General.....	10
4.2 Markup	10
5 Style.....	10
5.1 General.....	10
5.2 Basic graphic	11
5.3 Device adaptation, layout and processing	11
5.4 Text and fonts.....	11
5.5 Advanced graphic	11
6 Scripting.....	12
6.1 General.....	12
6.2 ECMAScript	12
6.3 Event model.....	12
6.4 CSSOM view.....	17
7 Application APIs	17
8 Media formats and protocols Media fragment URI.....	17
9 Memory usage.....	17
Annex A (normative) Support tables.....	19
A.1 General.....	19
A.2 HTML5 profile	19
A.2.1 Elements	19
A.2.2 Global attributes	27
A.2.3 Web applications APIs.....	30
A.3 CSS3 profile	33
A.3.1 General	33
A.3.2 CSS basic user interface	33
A.3.3 CSS image values and replaced content.....	36
A.3.4 CSS backgrounds and borders	36
A.3.5 CSS fonts module level 3.....	36
A.3.6 CSS text level 3.....	37
A.3.7 CSS transforms	37
A.3.8 CSS transitions.....	37
A.4 Web APIs profile	39
A.4.1 XMLHttpRequest	39
A.4.2 Web workers.....	39
A.4.3 Canvas 2D.....	39
Bibliography.....	43

Table 1 – Virtual keycode values	13
Table 2 – Minimum memory requirements	18
Table A.1 – HTML elements	20
Table A.2 – Global attributes	27
Table A.3 – Web applications APIs	30
Table A.4 – Media APIs	31
Table A.5 – Media element events	33
Table A.6 – CSS basic user interface properties and values	34
Table A.7 – User interface pseudo classes	36
Table A.8 – CSS transitions	38
Table A.9 – HTMLCanvasElement	39
Table A.10 – TextMetrics	40
Table A.11 – CanvasGradient	40
Table A.12 – CanvasRenderingContext2D	41

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONSUMER TERMINAL FUNCTION FOR ACCESS TO IPTV AND OPEN INTERNET MULTIMEDIA SERVICES –

Part 5-2: Web standards TV profile

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.

International Standard IEC 62766 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/2549/CDV	100/2663/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.

A list of all parts in the IEC 62766 series, published under the general title *Consumer terminal function for access to IPTV and open Internet multimedia services*, can be found on the IEC website.

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.

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

INTRODUCTION

The IEC 62766 series is based on a series of specifications that was originally developed by the OPEN IPTV FORUM (OIPF). They specify the user-to-network interface (UNI) for consumer terminals to access IPTV and open internet multimedia services over managed or non-managed networks as defined by OIPF.

IEC 62766-5-2 will be updated over time, as maturity of different standards (now works in progress) increase and/or new web standards are defined.

This document is organized as follows: the main body includes a list of references to specifications upon which the defined profile relies and that are considered necessary to enable an enhanced user experience. Annex A contains instead a detailed list of which features for each specification are considered stable enough and therefore can be safely supported by terminals and used by application developers. Such tables will be updated in future revisions of this document as maturity of the various specifications evolve. Support tables are omitted for those specifications that are required to be fully supported.

CONSUMER TERMINAL FUNCTION FOR ACCESS TO IPTV AND OPEN INTERNET MULTIMEDIA SERVICES –

Part 5-2: Web standards TV profile

1 Scope

This part of IEC 62766 specifies a profile of HTML5, CSS and other related web technologies for connected TVs. Its goal is to describe a common profile that can be relied on by content and service providers and implemented by manufacturers. It does not describe extensions or modification to any of the referenced technologies but only tries to define a subset of web standards that are suitable and useful for TV deployments and at the same time stable enough to provide a good degree of confidence that real interoperability can be achieved. It may add clarifications and/or additional constraints where these are needed due to the nature of the target deployment environment.

This part of IEC 62766 only describes a minimum subset of web technology that a terminal compliant with this profile is required to support. This does not preclude terminals to support more technologies than the ones described in this profile.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62766-1, *Open IPTV Forum (OIPF) consumer terminal function and network interfaces for access to IPTV and open Internet multimedia services – Part 1: General*

IETF RFC 6265, *HTTP State Management Mechanism*; Adam Barth, April 2011

IETF RFC 6455, *The WebSocket Protocol*; I. Fette, A. Melnikov, December 2011 including verified errata

W3C Recommendation, *CSS 2.1 Cascading Style Sheets*; Bert Bos, Tantek Çelik, Ian Hickson, Håkon Wium Lie, 7 June 2011. Available from: <http://www.w3.org/TR/2011/REC-CSS2-20110607/>

W3C Recommendation, *CSS Color Module Level 3*; Tantek Çelik, Chris Lilley, L. David Baron, 7 June 2011. Available from <http://www.w3.org/TR/2011/REC-css3-color-20110607/>

W3C Recommendation, *Media Fragments URI 1.0 (basic)*; Raphaël Troncy et al, 25 September 2012. Available from <http://www.w3.org/TR/2012/REC-media-frags-20120925/>

W3C Recommendation, *Media Queries*; Håkon Wium Lie; Tantek Çelik; Daniel Glazman; Anne van Kesteren, 19 June 2012. Available from <http://www.w3.org/TR/2012/REC-css3-mediaqueries-20120619/>

W3C Recommendation, *Selectors API Level 3*; Daniel Glazman et al., 29 September 2011. Available from <http://www.w3.org/TR/2011/REC-css3-selectors-20110929/>

W3C Recommendation, *Web Storage*; Ian Hickson, 30 July 2013. Available from <http://www.w3.org/TR/2013/REC-webstorage-20130730/>

W3C Recommendation, *WOFF File Format 1.0*; Jonathan Kew, Tal Leming, Erik van Blokland, 13 December 2012. Available from <http://www.w3.org/TR/2012/REC-WOFF-20121213/>

W3C, *ECMAScript Language Specification, Edition 5.1*, June 2011. Available from <http://www.ecma-international.org/publications/standards/Ecma-262.htm>

W3C Candidate Recommendation, *CSS Backgrounds and Borders Module Level 3*; Bert Bos, Elika J. Etemad, Brad Kemper, 24 July 2012. Available from <http://www.w3.org/TR/2012/CR-css3-background-20120724/>

W3C Candidate Recommendation, *CSS Image Values and Replaced Content*; Elika J. Etemad, Tab Atkins Jr., 17 April 2012. Available from <http://www.w3.org/TR/2012/CR-css3-images-20120417>

W3C Candidate Recommendation, *CSS Flexible Box Layout Module*, Tab Atkins Jr., Elika J. Etemad, Alex Mogilevsky, 18 September 2012. Available from <http://www.w3.org/TR/2012/CR-css3-flexbox-20120918/>

W3C Candidate Recommendation, *CSS3 Module: Multi-column layout*; Håkon Wium Lie, 12 April 2011. Available from <http://www.w3.org/TR/2011/CR-css3-multicol-20110412/>

W3C Candidate Recommendation, *HTML Canvas 2D Context*; Rik Cabanier, Eliot Graff, Jay Munro, Tom Wiltzius, Ian Hickson, 17 December 2012. Available from <http://www.w3.org/TR/2012/CR-2dcontext-20121217>

W3C Candidate Recommendation, *HTML5*; Robin Berjon, Steve Faulkner, Travis Leithead, Erika Doyle Navara, Edward O'Connor, Silvia Pfeiffer, 6 August 2013. Available from <http://www.w3.org/TR/2013/CR-html5-20130806/>

W3C Candidate Recommendation, *HTML5 Web Messaging*; Ian Hickson, 01 May 2012. Available from <http://www.w3.org/TR/2012/CR-webmessaging-20120501>

W3C Candidate Recommendation, *Server-Sent Events*; Ian Hickson, 11 December 2012. Available from <http://www.w3.org/TR/2012/CR-eventsourcing-20121211/>

W3C Candidate Recommendation, *Web Workers*; Ian Hickson, 01 May 2012. Available from <http://www.w3.org/TR/2012/CR-workers-20120501>

W3C Candidate Recommendation, *The WebSocket API*; I. Hickson, 20 September 2012. Available from <http://www.w3.org/TR/2012/CR-websockets-20120920/>

W3C Working Draft, *CSS3 Basic User Interface Module*; Tantek Çelik, 17 January 2012. Available from <http://www.w3.org/TR/2012/WD-css3-ui-20120117/>

W3C Working Draft, *CSS Animations*; Dean Jackson, David Hyatt, Chris Marrin, Sylvain Galineau, L. David Baron, 19 February 2013. Available from <http://www.w3.org/TR/2013/WD-css3-animations-20130219/>

W3C Working Draft, *CSS Fonts Module Level 3*; John Daggett, 12 February 2013. Available from <http://www.w3.org/TR/2013/WD-css3-fonts-20130212/>

W3C Working Draft, *CSS Text Module Level 3*; Elika J. Etemad, Koji Ishii, 13 November 2012. Available from <http://www.w3.org/TR/2012/WD-css3-text-20121113/>

W3C Working Draft, *CSS Transforms*; Simon Fraser, Dean Jackson, David Hyatt, Chris Marrin, Edward O'Connor, Dirk Schulze, Aryeh Gregor, 11 September 2012. Available from <http://www.w3.org/TR/2012/WD-css3-transforms-20120911>

W3C Working Draft, *CSS Transitions*; Dean Jackson, David Hyatt, Chris Marrin, L. David Baron, 12 February 2013. Available from <http://www.w3.org/TR/2013/WD-css3-transitions-20130212/>

W3C Working Draft, *CSSOM View Module*; Anne van Kesteren, 4 August 2011. Available from <http://www.w3.org/TR/2011/WD-cssom-view-20110804>

W3C Working Draft, *Document Object Model (DOM) Level 3 Events*; Travis Leithead, Jacob Rossi et al, 6 September 2012. Available from <http://www.w3.org/TR/2012/WD-DOM-Level-3-Events-20120906/>

W3C Working Draft, *XMLHttpRequest*; Julian Aubourg et al, 6 December 2012. Available from <http://www.w3.org/TR/2012/WD-XMLHttpRequest-20121206/>