

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



IEC 62546

Edition 1.0 2009-07

# INTERNATIONAL STANDARD



## High Definition (HD) recording link guidelines

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE

U

ICS 33.160.25; 33.160.40

ISBN 978-2-88910-761-2

## CONTENTS

FOREWORD .....	4
INTRODUCTION .....	6
1 Scope .....	7
2 Normative references .....	7
3 Terms, definitions and abbreviations .....	7
3.1 Terms and definitions .....	7
3.2 Abbreviations .....	7
4 Use cases .....	8
5 System definition .....	9
5.1 Device model .....	9
5.2 System usage .....	9
6 Guideline terminology and conventions .....	10
7 Guideline requirements .....	10
7.1 Purpose .....	10
7.2 General .....	10
7.3 Networking and connectivity .....	10
7.4 Device discovery and control .....	10
7.5 Media management .....	11
7.5.1 Purpose .....	11
7.5.2 Support for upload operations .....	11
7.5.3 Support for selection of record destination .....	12
7.5.4 Actions .....	12
7.6 Media transport .....	16
7.7 Media format .....	16
7.7.1 Purpose .....	16
7.7.2 General .....	16
7.7.3 Media format profile .....	16
7.8 Content protection .....	16
Annex A (informative) Use cases .....	17
Annex B (informative) Media format profile .....	22
Annex C (informative) Record destination selection .....	23
Annex D (informative) Vendor extension of XML service description .....	26
Bibliography .....	28
 Figure 1 – High definition reception and recording .....	6
Figure 2 – Recording system usage interaction model .....	9
Figure A.1 – HD reception and recording device model – triggered by the recorder .....	18
Figure A.2 – HD reception and recording device model – triggered by the receiver .....	19
 Table 1 – HDLNK namespace values .....	10
Table 2 – HD Recording Link guidelines version .....	11
Table 3 – <hdlnk:X_HDLNKDOC> element description .....	11
Table 4 – Arguments for X_HDLnkGetRecordDestinations() .....	12
Table 5 – Arguments for X_HDLnkGetRecordDestinationInfo() .....	12

Table 6 – Arguments for X_HDLnkGetRecordContainerID() .....	13
Table 7 – Child elements and attributes of the <RecordDestination> element. ....	14
Table 8 – Child elements and attributes of the <RecordDestinationInfo> element. ....	15
Table 9 – Eventing and moderation.....	16
Table B.1 – Media format profiles for regions.....	22

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### HIGH DEFINITION (HD) RECORDING LINK GUIDELINES

#### 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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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 62546 has been prepared by technical area 9: Audio, video and multimedia applications for end-user network, 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
100/1470/CDV	100/1558/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 maintenance result 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.

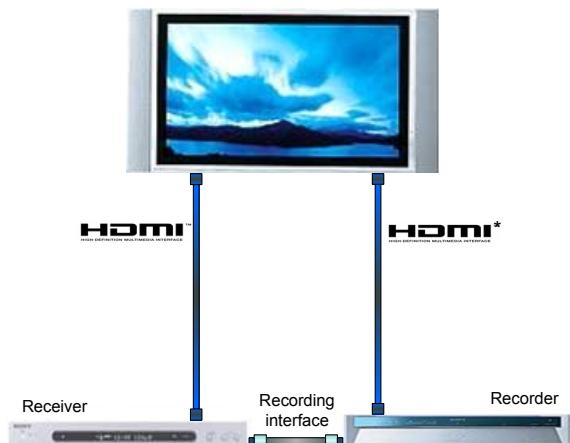
A bilingual version of this publication may be issued at a later date.

**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 publication using a colour printer.**

## INTRODUCTION

With the global introduction of High definition (HD) TV services, receivers, and consumer recording equipment, the need has arisen for a universal recording interface to connect receivers and recorders.

This International Standard presents a comprehensive proposal for this interface including content protection [2][3] <sup>1</sup>. The proposal – intended as a guideline – leverages existing standards IEC 62481-1, and [4] in the field, ensuring interoperability between receivers and recorders.



IEC 1338/09

NOTE \* HDMI (High-Definition Multimedia Interface)<sup>2</sup> is a digital interface for the connection between source device and monitor provided by HDMI Licensing, LLC.

**Figure 1 – High definition reception and recording**

The starting point for the proposal is an in-home configuration depicted in Figure 1. The assumption is that both the receiver (e.g. STB) as well as the recorder (e.g. BD-recorder) are connected to the display via an HDMI interface [4]. The proposed recording interface connects the recorder to the receiver and carries compressed signals only. Obviously, the receiver functionality can be integrated into the display.

The proposed interface recognises the fact that a large amount of content will be made available in the form of a Pay-TV and thus be protected via a Conditional Access (CA) system. The required CA functionality is assumed to be contained in the receiver.

1 Figures in square brackets refer to the Bibliography.

2 HDMI is the trade name of a product supplied by HDMI Licensing, LLC. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named.

## HIGH DEFINITION (HD) RECORDING LINK GUIDELINES

### 1 Scope

This International Standard specifies the communication protocol between a TV receiver and a video recorder which are connected through a digital interface.

### 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.

IEC 62481-1:2007, *Digital living network alliance (DLNA) home networked device interoperability guidelines – Part 1: Architecture and protocols*

IEC 62481-2, *Digital living network alliance (DLNA) home networked device interoperability guidelines – Part 2: DNLA media formats*

ETSI TR 101 211:2004, *Digital Video Broadcasting (DVB); Guidelines on Implementation and usage of Service Information (SI)-V1.6.1*