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**Leitfaden für eine Schnittstelle zur HD-Aufzeichnung (IEC 62546:2009);
Englische Fassung EN 62546:2009**

High Definition (HD) recording link guidelines (IEC 62546:2009);
English version EN 62546:2009

Lignes directrices relatives aux liaisons dédiées à l'enregistrement Haute Définition (HD)
(CEI 62546:2009);
Version anglaise EN 62546:2009

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Beginn der Gültigkeit

Die von CENELEC am 2009-10-01 angenommene EN 62546 gilt als DIN-Norm ab 2010-05-01.

Nationales Vorwort

Vorausgegangener Norm-Entwurf: E DIN IEC 62546:2008-05.

Für diese Norm ist das nationale Arbeitsgremium K 742 „Audio-, Video- und Multimediasysteme, -geräte und -komponenten“ der DKE Deutsche Kommission Elektrotechnik Elektronik Informationstechnik im DIN und VDE (www.dke.de) zuständig.

Die enthaltene IEC-Publikation wurde vom TC 100 „Audio, video and multimedia systems and equipment“ erarbeitet.

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Der Zusammenhang der zitierten Normen mit den entsprechenden Deutschen Normen ergibt sich, soweit ein Zusammenhang besteht, grundsätzlich über die Nummer der entsprechenden IEC-Publikation. Beispiel: IEC 60068 ist als EN 60068 als Europäische Norm durch CENELEC übernommen und als DIN EN 60068 ins Deutsche Normenwerk aufgenommen.

Das Präsidium des DIN hat mit Präsidialbeschluss 1/2004 festgelegt, dass DIN-Normen, deren Inhalt sich auf internationale Arbeitsergebnisse der Informationsverarbeitung gründet, unter bestimmten Bedingungen allein in englischer Sprache veröffentlicht werden dürfen. Diese Bedingungen sind für die vorliegende Norm erfüllt.

High Definition (HD) recording link guidelines
(IEC 62546:2009)

Lignes directrices relatives aux liaisons dédiées
à l'enregistrement Haute Définition (HD)
(CEI 62546:2009)

Leitfaden für eine Schnittstelle
zur HD-Aufzeichnung
(IEC 62546:2009)

This European Standard was approved by CENELEC on 2009-10-01. 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 Central Secretariat or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: Avenue Marnix 17, B-1000 Brussels

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Foreword

The text of document 100/1470/CDV, future edition 1 of IEC 62546, prepared by technical area 9: Audio, video and multimedia applications for end-user network, of IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62546 on 2009-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop): 2010-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow): 2012-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62546:2009 was approved by CENELEC as a European Standard without any modification.

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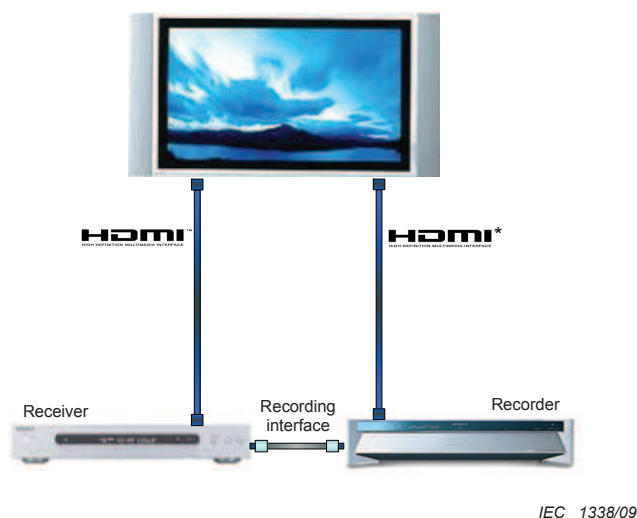
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INTRODUCTION

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]¹. The proposal – intended as a guideline – leverages existing standards IEC 62481-1, and [4] in the field, ensuring interoperability between receivers and recorders.



NOTE * HDMI (High-Definition Multimedia Interface)² 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*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1 content

video, audio or subtitles data which is intended to be delivered to and consumed by a user

3.1.2 content protection

control of access and usage of content through rules and rights

3.1.3 receiver

device with a digital broadcast reception capability which may have a storage for recording content, for example STB

3.1.4 recorder

device capable of recording digital content on to a storage medium (removable or non-removable or both), for example BD-recorder

3.2 Abbreviations

For the purposes of this document, the following abbreviations apply.

CDS	Content Directory Service
CEC	Consumer Electronics Control

CSV	Comma Separated Value
DIT	Discontinuity Information Table
DLNA	Digital Living Network Alliance
DMS	Digital Media Server
DTCP	Digital Transmission Content Protection
EPG	Electronic Program Guide
HDD	Hard Disk Drive
HDLNK	HD recording LiNK
HDMI	High Definition Multimedia Interface
HTTP	Hyper Text Transfer Protocol
IRD	Integrated Receiver Decoders
MPEG	Moving Picture Experts Group
OCM	Optional Content Management
PAT	Program Association Table
PMT	Program Map Table
PVR	Personal Video Recorder
RCV	Receiver
REC	Recorder
SIT	Selection Informative Table
SPTS	Single Program Transport Stream
STB	Set Top Box
STC	System Time Clock
TS	Transport Stream
SI	Service Information
SOAP	Simple Object Access Protocol
SCPD	Service Controlled Protocol Description
UPnP	Universal Plug and Play
XML	eXtensible Markup Language

4 Use cases

Annex A shows the following use cases derived from the interconnection depicted in Figure 1.

- a) Impulse recording (What You See Is What You Record – WYSIWYR)
- b) Scheduled recording
- c) Pause TV
- d) Archiving

This standard addresses the following two use cases described in A.4.3 and Clause A.6, but not others described in 0.

In addition, it should be noted that this guideline implements the scheduled recording use case without reservation of the storage on the recorder side. Other use cases described in Annex A may be covered by the future publications.