



# SLOVENSKI STANDARD SIST EN 62457:2008

01-junij-2008

Home network communication protocol over IP for multimedia household appliances  
(IEC 62457:2007)

Heimnetzwerk-Kommunikationsprotokoll über IP für Multimedia-Haushaltsgeräte (IEC  
62457:2007)

Réseaux résidentiels multimédia - Protocole de communication de réseau résidentiel sur  
IP destiné aux appareils domestiques multimédia (CEI 62457:2007)

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**Ta slovenski standard je istoveten z: EN 62457:2008**

### **ICS:**

35.110	Omreževanje	Networking
35.240.99	Wj [  æ} ž \ ^ Á ^ zã ^ Á / Á æ ái ^ * ã@ [ á [ b@	IT applications in other fields

**SIST EN 62457:2008**

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Multimedia-Heimnetzwerke -  
Heimnetzwerk-Kommunikationsprotokoll  
über IP für Multimedia-Haushaltsgeräte  
(IEC 62457:2007)

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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: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 100/1197/CDV, future edition 1 of IEC 62457, 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 Unique Acceptance Procedure and was approved by CENELEC as EN 62457 on 2008-02-01.

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) 2008-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-02-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 62457:2007 was approved by CENELEC as a European Standard without any modification.

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**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEEE Std 802.15.1	2005	IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 15.1: Wireless medium access control (MAC) and physical layer (PHY) specifications for wireless personal area networks (WPANs)	-	-

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# INTERNATIONAL STANDARD

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**Multimedia home networks – Home network communication protocol over IP for  
multimedia household appliances**

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INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE **XB**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTIMEDIA HOME NETWORKS –  
HOME NETWORK COMMUNICATION PROTOCOL  
OVER IP FOR MULTIMEDIA HOUSEHOLD APPLIANCES**

FOREWORD

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International Standard IEC 62457 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
100/1197/CDV	100/1271/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.

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## INTRODUCTION

By enabling standalone-type household appliances (household appliances other than audiovisual equipment, PCs and PC-related equipment) such as white appliances (e.g. air conditioners, refrigerators), sensors, health, exercise and fitness equipment to connect to and work in conjunction with audiovisual equipment, PCs and/or PC-related equipment, it becomes possible to deliver multimedia application services, such as displaying a “washing completed” message of a washing machine on a TV screen or operating an air conditioner via a TV screen, that otherwise would not be possible (see Figure 1).

To achieve these services, a home network standard for networks of standalone-type household appliances and network standards for audiovisual equipment, PCs and PC-related equipment are needed. It is also necessary to establish a system that allows equipment belonging to a network to exchange data with other equipment of different types of networks. A commonly used approach to allow networks of different types to exchange data with each other is to use Gateways.

Because data transferred within, into and out of networks of standalone-type household appliances are control data, which are much smaller in volume than data similarly transferred for networks of audiovisual equipment, PCs and PC-related equipment, and because standalone-type household appliances have longer service lives than audiovisual equipment, PCs and PC-related equipment, home network standards for networks of standalone-type household appliances have been established separately from network standards for audiovisual equipment, PCs and PC-related equipment, and many different protocol standards have been in use for a long time in different countries<sup>1</sup>.

On the other hand, recent advances in device and software technology have made it possible to implement TCP/IP (which has been adopted worldwide for audiovisual equipment, PCs and PC-related equipment) in certain standalone-type household appliances, and so establishing a home network standard for networks of standalone-type household appliances in the form of a standard for layers above TCP/IP would allow data to be directly exchanged between household appliances and audiovisual equipment, PCs and PC-related equipment via TCP/IP (see Figure 2 example1, example2). In turn, this would allow the creation of multimedia application services that enable household appliances to work in conjunction with audiovisual equipment, PCs and PC-related equipment.

The advantages of applying this standard are:

- it can be applied to many types of Home Network standards.
- both Home Network nodes with TCP/IP Layer and without can coexist under the same Home Network middleware.
- Household appliances can communicate with audiovisual equipment, PCs and PC-related equipment, and vice versa, without requiring any gateway.
- Household appliances can handle text and audiovisual data.
- Audiovisual equipment, PCs and PC-related equipment can handle Household appliances data.
- Household appliances can freely select a suitable lower-layer medium from various lower-layer media below TCP/IP.

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<sup>1</sup> CEBus, ECHONET, Konnex, LonTalk, others.

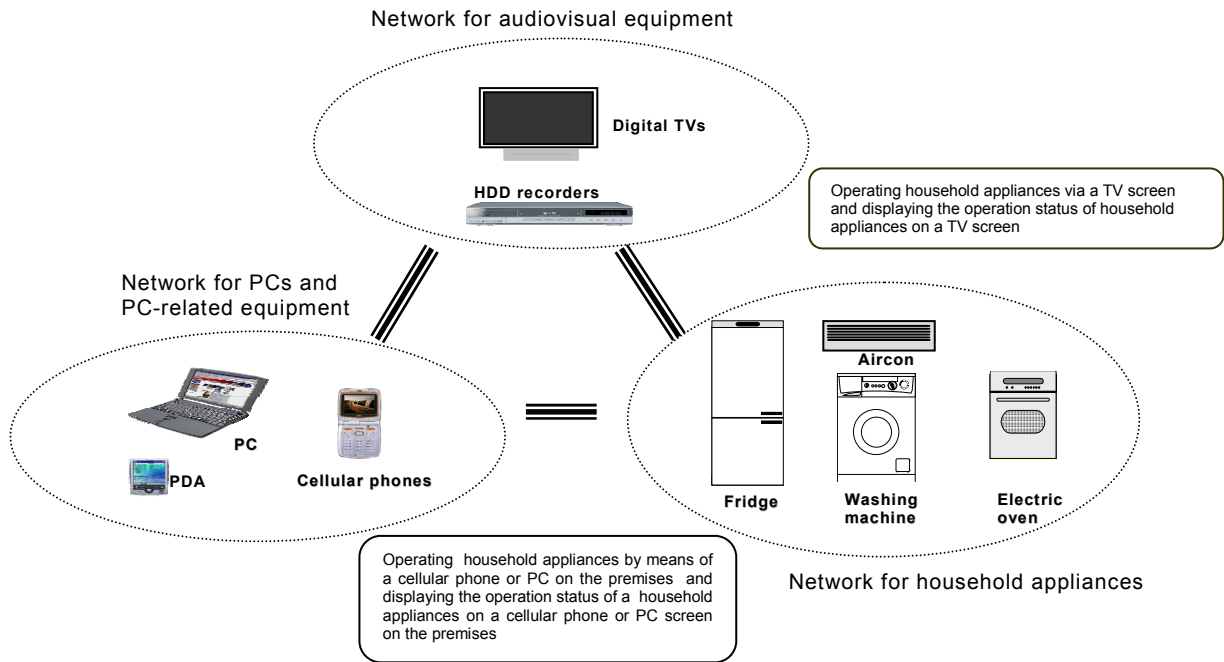


Figure 1 – Grouping of relationship between household appliances and audiovisual equipment, PCs and PC-related equipment

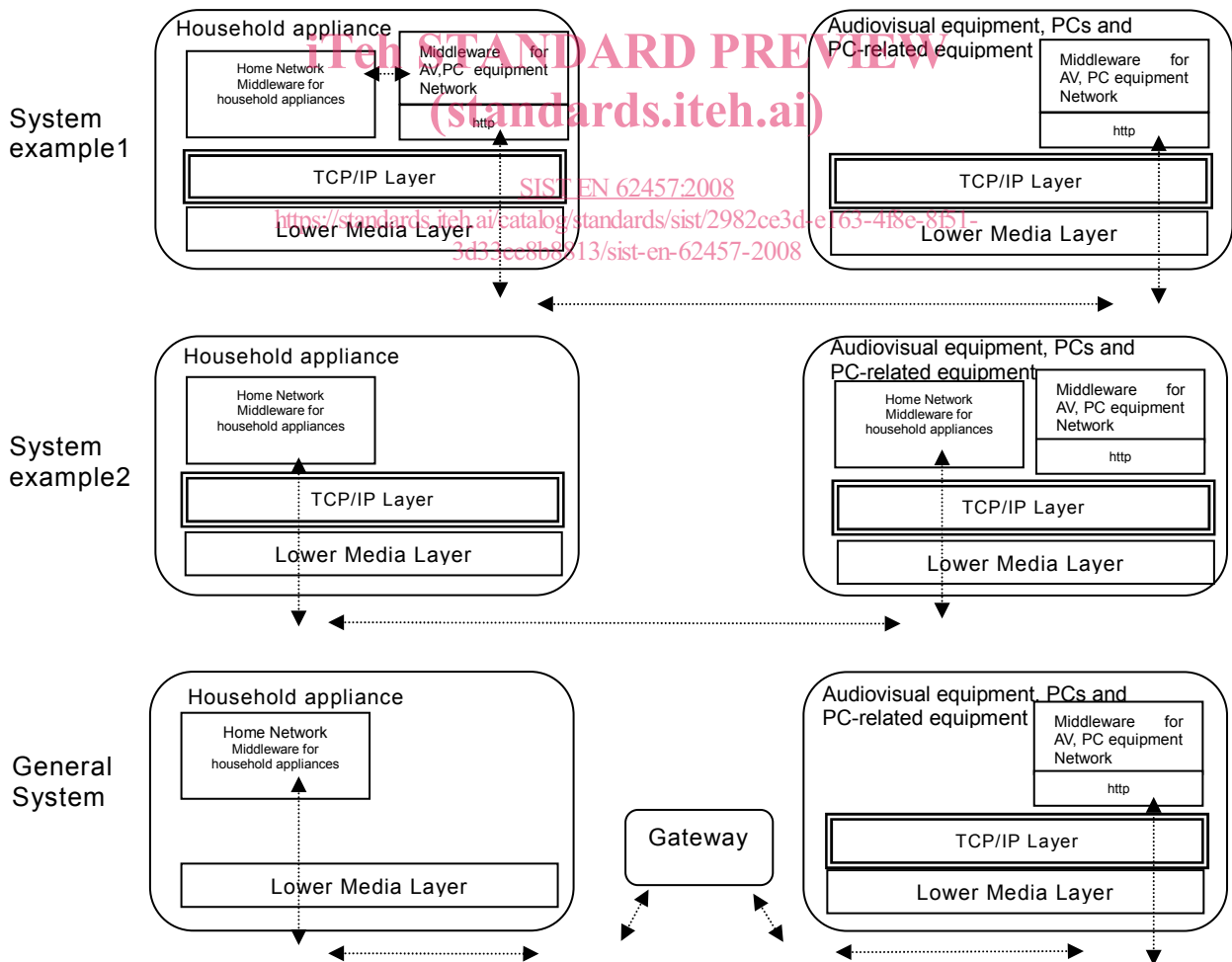


Figure 2 – Examples of data communication between household appliance and audiovisual equipment, PCs and PC-related equipment