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Service diagnostic interface for consumer electronics products and networks – Implementation for ECHONET

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IEC 62394 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2022. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) updates of the device object super class specifications for the property configurations shared by all device objects;
b) modification and addition of the property configurations defined by each object;
c) addition of new device objects and their property configurations;
d) updates to Bibliography.

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

Draft	Report on voting
100/4072/CDV	100/4157/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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INTRODUCTION

Consumer products are often repaired by service workshops, which service a wide range of products developed by different manufacturers.

For highly complex products, fault diagnosis becomes increasingly difficult and time consuming.

To facilitate diagnosis, manufacturers often develop built-in diagnostic software that communicates with an external diagnostic unit through a service diagnostic interface (SDI).

To avoid the need for a service workshop to purchase several different diagnostic units from different manufacturers for different products, a standardized SDI is proposed for use by all manufacturers of any products requiring a diagnostic interface. The result will be that only one SDI is needed in the service workshops.

The SDI should be suitable for diagnosis in a facilities or household appliances network in which different products from different manufacturers are connected together. The interface should also allow for future developments.

The standard SDI should:

- be usable in future products,
- be easily connectable to a product or a network,
- be inexpensive,
- not limit product design.

SERVICE DIAGNOSTIC INTERFACE FOR CONSUMER ELECTRONICS PRODUCTS AND NETWORKS – IMPLEMENTATION FOR ECHONET

1 Scope

This International Standard specifies requirements for service diagnostic software to be implemented in products that incorporate a digital interface. It does not specify requirements for carrying out remote diagnosis or for manufacturer-dependent software.

The Service Diagnostic Interface (SDI) requires an external controller (exclusive or general-purpose/PC) into which service diagnostic software can be loaded. Parts of the controller software are standardized while other parts are proprietary to the manufacturers.

To reach a common approach in servicing all products from all manufacturers, it is necessary to standardize specific items to be tested in products and certain aspects of controllers' diagnostic software.

The SDI is based upon ECHONET specification version 2.11, ECHONET Lite specification version 1.13, and APPENDIX Detailed Requirements for ECHONET Device objects Release Q rev. 1, because this interface will be used in future products. The use of this connection and existing communication protocols enable implementation in products at a low cost, with maximum flexibility and efficiency.

The SDI consists of

- specific hardware and software requirements of the device under test (DUT);
- specific requirements of the controller:
  - the service software;
  - an ECHONET interface;
- the connection between the controller and the DUT.

This document provides the minimal requirements necessary to carry out computerized diagnosis. It covers the standardized software of the controller as well as the standardized software and provisions in the DUT.

2 Normative references

There are no normative references in this document.