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Service diagnostic interface for consumer electronics products and networks – Implementation for IEEE 1394

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SERVICE DIAGNOSTIC INTERFACE FOR CONSUMER ELECTRONICS PRODUCTS AND NETWORKS – Implementation for IEEE 1394

FOREWORD

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International Standard IEC 62286 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

This standard was developed by a project team of service and interface specialists within the European Association of Consumer Electronics Manufacturers (EACEM). EACEM subsequently merged with EICTA in September 2001. EICTA is the European Information, Communications and Consumer Electronics Technology Industry Association.

The text of this standard is based on the following documents:

CDV	Report on voting
100/432/CDV	100/493A/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 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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

INTRODUCTION

Consumer products are often repaired by service workshops who are servicing all kinds of products developed by different manufacturers.

For high complexity products, the fault diagnosis becomes more and more difficult and time consuming. To make diagnosis possible, manufacturers often develop some built-in diagnostic software which can be used for fault finding together 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 and in all products in which such diagnostic interfaces are required. The result will be that only one SDI is needed in the service workshops.

The SDI should also be suitable for diagnosis in a network (A/V or multimedia network) in which different products from different manufacturers are connected together. The interface should also allow for future development.

The standard SDI which has to be specified, should:

– be usable in future products;
– be easily connectable to a product or a network;
– be cheap;
– not limit product design.

SERVICE DIAGNOSTIC INTERFACE FOR CONSUMER ELECTRONICS PRODUCTS AND NETWORKS – Implementation for IEEE 1394

1 Scope

This International Standard specifies the requirements that have to be implemented in future products that incorporate a digital interface, and service diagnostic software developed for these products. The Service Diagnostic Interface (SDI) requires the use of a PC (desktop or laptop) into which service diagnostic software can be loaded. A part of this PC software has to be standardised while another part of this PC software is manufacturer/product related.

To reach a common approach in servicing all products from all manufacturers, it is necessary to standardise specific items in the products (Device Under Test/DUT) as well as in the diagnostic software on the PC.

The Service Diagnostic Interface (SDI) is based on the IEEE 1394:1995 specification because this interface will be used in most future products. The use of this connection and existing communication protocols enable implementation in products at low cost, and gives maximum flexibility and efficiency.

The SDI consists of:

- Specific hardware and software requirements of the DUT.
- Specific requirements of the PC:
  - the Service software,
  - an IEEE 1394 interface (to be built in if not already present).
- The connection between the PC and the DUT.

This specification is a minimal specification necessary to be able to carry out computerised diagnosis and covers the standardised software of the PC as well as the standardised software and provisions in the DUT.

If an IEEE 1394 interface is present on the product, then the requirement for product identification as described in this document (see 6.3) is mandatory. In addition, all communication for any service application should go through the IEEE 1394 interface only, as described in this document (in Clause 7).

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 61883-1:2003, *Consumer audio/video equipment – Digital Interface – Part 1: General*

IEEE 1212:2001, *Microprocessor Systems – Control and Status Registers (CSR): Architecture for microcomputer buses*

IEEE 1394:1995, *IEEE Standard for a High Performance Serial Bus – Firewire*

IEEE 1394a:2000, *IEEE Standard for a High Performance Serial Bus –* Amendment 1