

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



IEC/TS 62436

Edition 1.0 2008-02

# TECHNICAL SPECIFICATION

---

**Guideline for implementation of copy controlled multimedia interface**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE

Q

---

ICS 33.160; 35.240.99

ISBN 2-8318-9612-6

## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references .....	6
3 Terms, definitions and abbreviations .....	6
3.1 Terms and definitions .....	6
3.2 Abbreviations .....	7
4 Relation between interface standards and specifications .....	7
4.1 IEC standards with copy control information .....	7
4.2 Relation between IEC standards.....	7
4.3 IEC 60958 conformant data format.....	8
4.3.1 The structure defined in IEC 61883-6 .....	8
4.3.2 Application to the other interface specification .....	10
4.4 IEC 61937 format based on IEC 60958.....	10
5 Information for copy control .....	11
5.1 Audio .....	11
5.1.1 SCMS.....	11
5.1.2 Other information.....	11
5.2 Video .....	11
6 Implementation of copy control information of audio .....	11
6.1 IEC 61937 implementation .....	11
6.2 IEC 61883-6 implementation .....	12
7 Implementation of copy control information of audio accompanied with video .....	12
8 Implementation of other information.....	12
Annex A (informative) Relation between IEC standards and other specifications.....	13
Annex B (informative) Copy control information of audio accompanied with video .....	15
Bibliography.....	16
Figure 1 – The relationship between IEC standards .....	8
Figure 2 – Sub-frame format .....	9
Figure 3 – IEC 60958 conformant data format.....	9
Figure 4 – The logical structure of IEC 60958 conformant data format .....	10
Figure 5 – IEC 61937 data area .....	10
Figure A.1 – The relationship between IEC 60958, AES3 and CP-340 .....	13
Figure A.2 – The relationship IEEE1394 and IEC 61883-6 .....	14
Table 1 – IEC standards with copy control information .....	7
Table 2 – IEC 60958 conformant data format.....	9

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

---

### GUIDELINE FOR IMPLEMENTATION OF COPY CONTROLLED MULTIMEDIA INTERFACE

#### 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.

The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a technical specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62436, which is a technical specification, has been prepared by technical area 4: Digital system interfaces and protocols, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
100/1231/DTS	100/1334/RVC

Full information on the voting for the approval of this technical specification 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

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

## INTRODUCTION

Various IEC standards have included methods for transmission of copy control information at the time when they were developed. For instance, IEC 61119-6 defines copyright status bit for DAT recorder, and IEC 60958-3 defines the L bit that is specified in IEC 61119-6.

The current consumer products become more complex and use the many IEC standards in one product.

For instance, a DVD player produces its high quality audio signal securely through IEC 61883-6, it also performs CD quality audio signal through IEC 60958 or IEC 61937, and the DVD player can produce audio signals through the other interface using IEC 60958 conformant data format, defined in IEC 61883-6.

Another example is a digital video recorder with hard disk drive or DVD that produces audio signal to the other audio recorder using IEC 60958 or IEC 61883-6.

These consumer products use many interface standards and should give copy control information and other information appropriately.

This guideline describes

- the relation between digital interface standards,
- the relation of copy control information and related information,
- the method for information implementation.

## GUIDELINE FOR IMPLEMENTATION OF COPY CONTROLLED MULTIMEDIA INTERFACE

### 1 Scope

This Technical Specification gives a guideline for the implementation of the audio and video interfaces with copy control information.

### 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 60958 (all parts), *Digital audio interface*

IEC 60958-1, *Digital audio interface – Part 1: General*

IEC 60958-3, *Digital audio interface – Part 3: Consumer applications*

IEC 61119-6, *Digital audio tape cassette system (DAT) – Part 6: Serial copy management system*

IEC 61880-2, *Video systems (525/60) – Video and accompanied data using the vertical blanking interval – Analogue interface – Part 2: 525 progressive scan system*

IEC 61883-6, *Consumer audio/video equipment – Digital interface – Part 6: Audio and music data transmission protocol*

IEC 61909, *Audio recording – Minidisc system*

IEC 61937 (all parts), *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958*

IEC 61937-1, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 1: General*

IEC 61937-2, *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 2: Bust-info*

IEC 62375, *Video systems (625/50 progressive) – Video and accompanied data using the vertical blanking interval – Analogue interface*