

INTERNATIONAL STANDARD

**Consumer audio/video equipment – Digital interface –
Part 8: Transmission of ITU-R BT.601 style digital video data**



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IEC 61883-8

Edition 1.0 2008-11

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

X

ICS 33.160.40

ISBN 2-8318-1018-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONSUMER AUDIO/VIDEO EQUIPMENT –
DIGITAL INTERFACE –****Part 8: Transmission of ITU-R BT.601 style digital video data**

FOREWORD

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International Standard IEC 61883-8 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 standard is based on the following documents:

FDIS	Report on voting
100/1446/FDIS	100/1476/RVD

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.

A list of all parts of the IEC 61883 series, under the general title *Consumer audio/video equipment – Digital interface*, can be found on the IEC website.

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- withdrawn,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.

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

CONSUMER AUDIO/VIDEO EQUIPMENT – DIGITAL INTERFACE –

Part 8: Transmission of ITU-R BT.601 style digital video data

1 Scope

This part of IEC 61883 specifies a protocol for the transport of uncompressed or compressed video data in the 4:2:2 format of recommendation ITU-R BT.601 (including compatible extensions to this format for the higher and lower resolutions of other commonly used video resolutions) over high performance serial bus, as specified by IEEE Std 1394-1995 as amended by IEEE Std 1394a-2000 and IEEE Std 1394b-2002 (collectively IEEE 1394). The data formats for the encapsulation of video data are compatible with those specified by IEC 61883-1. Associated audio data, if any, should be formatted as specified by IEC 61883-6.

There are many commonly used video formats unsupported by IEC 61883, such as MPEG-4, Windows Media Format (WMF) and the format used by automotive navigation applications. Support for all or most of these formats in rendering devices would require implementation of multiple video codecs. This is an undue burden that may be avoided if the source device converts to ITU-R BT.601 4:2:2 format and, if necessary, compresses the data with a codec supported by all destination devices. An additional advantage is that on-screen display (OSD) information may be mixed with video data prior to transmission to the rendering device.

Because ITU-R BT.601 4:2:2 format is widely used internally in contemporary AV equipment, this specification permits straight-forward integration of IEEE 1394 into these devices and enables markets whose usage scenarios include single video sources transmitting to one or more video displays, such as:

- consumer electronic STB or DVD video rendered by multiple displays in the home;
- automotive navigation and entertainment; and
- aeronautical in-flight entertainment.

For the sake of interoperability and bounded implementation complexity, it is essential that the specification provide the following:

- a 1394 TA controlled list of compression codecs; and
- at a minimum, a reference to one video compression codec.

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 (all parts), *Consumer audio/video equipment – Digital interface*

IEC 61883-1, *Consumer audio/video equipment – Digital interface – Part 1: General*

ISO/IEC 11172-2:1993, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s – Part 2: Video*

IEEE Std 1394-1995, *Standard for a high performance serial bus*

IEEE Std 1394a-2000, *Standard for a high performance serial bus*
Amendment 1

IEEE Std 1394b-2002, *Standard for a high performance serial bus*
Amendment 2

Throughout this document, the term IEEE 1394 refers to IEEE Std 1394-1995 as amended by IEEE Std 1394a-2000 and IEEE Std 1394b-2002.

1394 Trade Association 2004006, *AV/C Digital Interface Command Set General Specification*
Version 4.2

1394 Trade Association 2003017, *IIDC 1394-based Digital Camera Specification* Ver.1.31

EIA/CEA-861-B 2002, *A DTV Profile for Uncompressed High Speed Digital Interfaces*

IEEE Std 1394.1-2004, *Standard for High Performance Serial Bus Bridges*

ITU-R BT.601-5 1995, *Studio encoding parameters of digital television for standard 4:3 and wide-screen 16:9 aspect ratios*

ITU-R BT.656-4 1998, *Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of recommendation ITU-R BT.601*

ITU-R BT.709-4 2000, *Parameter values for the HDTV standards for production and international programme exchange*

ITU-R BT.1358 1998, *Studio parameters of 625 and 525 line progressive scan television systems*

ITU-T H.263 1998, *Video coding for low bit rate communication*

SMPTE 267M-1995, *Television – Bit-Parallel Digital Interface – Component Video Signal 4:2:2 16x9 Aspect Ratio*

SMPTE 274M-1998, *Television – 1920 × 1080 Scanning and Analog and Parallel Digital Interfaces for Multiple Picture Rates*

SMPTE 293M-1996, *Television – 720 × 483 Active Line at 59.94-Hz Progressive Scan Production – Digital Representation*

SMPTE 296M-2001, *Television – 1280 × 720 Progressive Image Sample Structure – Analog and Digital Representation and Analog Interface*

VESA Monitor Timing Specifications, VESA and Industry Standards and Guidelines for Computer Display Monitor Timing, Version 1.0, Revision 0.8

3 Abbreviations and conventions

3.1 Abbreviations

For the purposes of this document, the abbreviations given in IEC 61883-1, as well as the following, apply.

AV/C Audio Video Control