

# TECHNICAL REPORT

# ISO/IEC TR 11172-5

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## Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s —

### Part 5: Software simulation

*Technologies de l'information — Codage de l'image animée et du son  
associé pour les supports de stockage numérique jusqu'à environ  
1,5 Mbit/s —*

*Partie 5: Simulation de logiciel*



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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard (“state of the art”, for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/IEC TR 11172-5, which is a Technical Report of type 3, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

ISO/IEC 11172 consists of the following parts, under the general title *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s*:

- *Part 1: Systems*
- *Part 2: Video*
- *Part 3: Audio*
- *Part 4: Compliance testing*
- *Part 5: Software simulation*

## Introduction

### Purpose

This Technical Report was developed in response to the growing need for a generic coding method of moving pictures and of associated sound for various applications such as digital storage media, television broadcasting and communication. The use of this specification means that motion video can be manipulated as a form of computer data and can be stored on various storage media, transmitted and received over existing and future networks and distributed on existing and future broadcasting channels.

# Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s —

## Part 5:

## Software simulation

### 1 Scope

This Technical Report provides a C language software simulation of an encoder and decoder for Part 1 (Systems), Part 2 (Video), and Part 3 (Audio) of ISO/IEC 11172.

### 2 References

Recommendations and reports of the CCIR, 1990 XVIIth Plenary Assembly, Dusseldorf, 1990 Volume XI - Part 1 Broadcasting Service (Television) ITU-R Rec. BT.601-3, *Encoding parameters of digital television for studios*.

CCIR Volume X and XI Part 3 ITU-R Rec. BR.648, *Recording of audio signals*.

CCIR Volume X and XI Part 3 Report ITU-R 955-2 Satellite sound broadcasting to vehicular, portable and fixed receivers in the range 500 - 3000Mhz.

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

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*.

ISO/IEC 11172-3:1993, *Information technology - Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s - Part 3: Audio*.

ISO/IEC 11172-4:1995, *Information technology - Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s - Part 4: Compliance testing*.

IEEE Standard Specifications for the Implementations of 8 by 8 Inverse Discrete Cosine Transform, IEEE Std 1180-1990, December 6, 1990.

IEC 461:1986, *Time and control code for video tape recorders*.

IEC 908:1987, *Compact disc digital audio system*.

ITU-T Rec. H.261 (Formerly CCITT Rec. H.261) Codes for audiovisual services at px64 kbit/s, Geneva 1990.

ITU-T Rec. T.81 | ISO/IEC 10918-1:1994, *Information technology - Digital compression and coding of continuous-tone still images: Requirements and guidelines*.