INTERNATIONAL STANDARD

ISO/IEC 11693-1

First edition
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Identification cards — Optical memory cards —

Part 1: General characteristics

Cartes d'identification — Cartes à mémoire optique —

Partie 1: Caractéristiques générales

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 11693-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

This first edition of ISO/IEC 11693-1 cancels and replaces ISO/IEC 11693:2005, which has been technically revised.

ISO/IEC 11693 consists of the following parts, under the general title *Identification cards — Optical memory cards*:

— *Part 1: General characteristics*

— *Part 2: Co-existence of optical memory with other machine readable technologies*

Introduction

This part of ISO/IEC 11693 is one of a series of standards describing the parameters for optical memory cards and the use of such cards for the storage and interchange of digital data.

The standards recognize the existence of different methods for recording and reading information on optical memory cards, the characteristics of which are specific to the recording method employed. In general, these different recording methods will not be compatible with each other. Therefore, the standards are structured to accommodate the inclusion of existing and future recording methods in a consistent manner.

This part of ISO/IEC 11693 is generic to all optical memory cards. Characteristics which apply to a specific recording method will be found in separate standards documents which define the extent of compliance with, addition to, and/or deviation from this relevant base document.

NOTE There are two currently standardized recording methods: the linear recording method and the holographic recording method. Other recording methods may be developed in the future which will call for additions to be made to this part of ISO/IEC 11693 and/or may result in the need for other International Standards to be prepared.

Identification cards — Optical memory cards —

Part 1:
General characteristics

1 Scope

The intent of this part of ISO/IEC 11693 is to provide necessary information for card manufacturers, card issuers, and card users interested in interchanging information encoded on optical memory cards.

This part of ISO/IEC 11693 serves as a guide to companies who plan to develop equipment and systems using optical memory cards. The data content and use of the cards depend upon the applications developed by each industry group.

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.

ISO/IEC 7810, *Identification cards — Physical characteristics*

ISO/IEC 7816-1, *Identification cards — Integrated circuit cards — Part 1: Cards with contacts — Physical characteristics*

ISO/IEC 10373-1, *Identification cards — Test methods — Part 1: General characteristics*

ISO/IEC 10373-5, *Identification cards — Test methods — Part 5: Optical memory cards*

ISO/IEC 10373-9, *Identification cards — Test methods — Part 9: Optical memory cards — Holographic recording method*

ISO/IEC 11693-2, *Identification cards — Optical memory cards — Part 2: Co-existence of optical memory with other machine readable technologies*

ISO/IEC 11694-1, *Identification cards — Optical memory cards — Linear recording method — Part 1: Physical characteristics*

ISO/IEC 11694-2, *Identification cards — Optical memory cards — Linear recording method — Part 2: Dimensions and location of the accessible optical area*

ISO/IEC 11694-3, *Identification cards — Optical memory cards — Linear recording method — Part 3: Optical properties and characteristics*

ISO/IEC 11694-4, *Identification cards — Optical memory cards — Linear recording method — Part 4: Logical data structures*

ISO/IEC 11695-1, *Identification cards — Optical memory cards — Holographic recording method — Part 1: Physical characteristics*

ISO/IEC 11695-2, *Identification cards — Optical memory cards — Holographic recording method — Part 2: Dimensions and location of accessible optical area*

ISO/IEC 11695-3, *Identification cards — Optical memory cards — Holographic recording method — Part 3: Optical properties and characteristics*

ISO/IEC 11695-4, *Identification cards — Optical memory cards — Holographic recording method — Part 4: Logical data structures*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
accessible optical area
portion of the optical memory card which is available to be accessed by the read and/or write beam of the optical system used

4 Construction

4.1 Card construction

ISO/IEC 7810 applies.

4.2 Card height and width

ISO/IEC 7810 applies.

4.3 Card thickness

ISO/IEC 7810 applies.

4.4 Card corners

ISO/IEC 7810 applies.

4.5 Card edges

ISO/IEC 7810 applies

5 Physical characteristics

NOTE Physical characteristics applicable to optical memory cards are dependent upon the recording method employed. Refer to ISO/IEC 11694-1 or ISO/IEC 11695-1 for details.

5.1 Additions

The addition of integrated circuit chips with or without contacts, tipping, embossing, magnetic stripe materials, and/or signature panel materials shall not alter the characteristics of the optical memory card to the extent that, during normal use of the card, the accessible optical area is likely to become incapable of meeting the

characteristics specified for it in this part of ISO/IEC 11693. Requirements for co-existence of optical memory with other machine readable technologies are detailed in ISO/IEC 11693-2.

5.2 Bending stiffness

ISO/IEC 7810 applies.

5.3 Card warpage

ISO/IEC 7810 applies.

5.4 X-rays

ISO/IEC 7816-1 applies.

5.5 Contamination

The card shall not contain elements which migrate into and/or modify the accessible optical area to the extent that, during normal use of the card, the accessible optical area is likely to become incapable of meeting the characteristics specified for it in this part of ISO/IEC 11693.

5.6 Flammability

Flammability is not specified in this part of ISO/IEC 11693.

5.7 Toxicity

ISO/IEC 7810 applies.

5.8 Ultraviolet light

ISO/IEC 7816-1 applies.

5.9 Light transmittance

ISO/IEC 7810 applies.

5.10 Bending properties

ISO/IEC 7816-1 applies.

5.11 Resistance to chemicals

ISO/IEC 7810 applies.

5.12 Atmospheric requirements

The card shall still function in accordance with this part of ISO/IEC 11693 when exposed to

1) gaseous concentrations of less than 0,1 parts per million of SO_2, H_2S, or NO_x;

   NOTE NO_x means NO, NO_2 or a mixture of NO and NO_2.

2) salt (NaCl) concentrations of less than 2,7 $\mu g/m^3$.