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**Identification cards — Machine readable  
travel documents —**

Part 1:  
**Machine readable passport**

*Cartes d'identification — Documents de voyage lisibles par machine —  
Partie 1: Passeport lisible par machine*

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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 7501-1 was prepared by the International Civil Aviation Organization (as ICAO Doc 9303, Part 1, sixth edition, 2006) and was adopted, under a special "fast-track procedure", by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by the national bodies of ISO and IEC.

This fifth edition cancels and replaces the fourth edition (ISO/IEC 7501-1:2005), which has been technically revised.

ISO/IEC 7501 consists of the following parts, under the general title *Identification cards — Machine readable travel documents*:

- *Part 1: Machine readable passport*
- *Part 2: Machine readable visa*
- *Part 3: Machine readable official travel documents*



# Identification cards — Machine readable travel documents —

## Part 1: Machine readable passport

The following document is adopted as ISO/IEC 7501-1:2008:

**Sixth Edition of the International Civil Aviation Organization (ICAO) Document, i.e. Doc 9303 Part 1 - Machine Readable Passports;** specifically,

from **Volume 1 – Passports with Machine Readable Data Stored in Optical Character Recognition Format**

- Section II Technical specifications for machine readable passports – References and definitions;
- Section III Technical specifications for the security of the design, manufacture and issuance of machine readable travel documents; and
- Section IV Technical specifications for machine readable passports;

and

from **Volume 2 – Specifications for Electronically Enabled Passports with Biometric Identification Capability**

- Section II The deployment of biometric identification and the electronic storage of data in machine readable passports;
- Section III A logical data structure for contactless integrated circuit data storage technology; and
- Section IV PKI for machine readable travel documents offering ICC read only access.

ISO/IEC 7501-1:2008 is intended for use in all applications relating to machine readable passports. It specifies the form and provides guidance on the construction of machine readable passports (MRPs), in particular in relation to those aspects of the MRP where details of the rightful holder are presented in a form which is both visual and machine readable. It equally defines the specifications to be used by States wishing to issue an electronically enabled version of the MRP (ePassport) for secure carriage and access to an expanded set of details, including globally interoperable biometric data for confirming the presenter as the rightful holder of the ePassport.

ICAO Doc 9303 Part 1 is maintained by a Technical Advisory Group on Machine Readable Travel Documents (TAG/MRTD). ISO/IEC JTC 1 has provided and continues to provide liaison during the TAG/MRTD meetings on ICAO Doc 9303 Part 1 and considered the technical specifications to which the endorsement notice applies.

Information on the TAG/MRTD for ICAO 9303 Part 1 can be obtained on application to the Secretary General, International Civil Aviation Organization, 999 University Street, Montréal, Quebec H3C 5H7, Canada.

## ISO/IEC 7501-1:2008(E)

NOTE Copies of the Sixth Edition of ICAO Doc 9303 Part 1 can be obtained from the International Civil Aviation Organization, 999 University Street, Montréal, Quebec H3C 5H7, Canada.

Technical specifications defined in ICAO Doc 9303 Part 1 refer to a number of International Standards:

ISO 1073-2:1976, *Alphanumeric character sets for optical recognition — Part 2: Character set OCR-B — Shapes and dimensions of the printed image*

ISO 1831:1980, *Printing specifications for optical character recognition*

ISO 3166-1:2006, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO 3166-2:2007, *Codes for the representation of names of countries and their subdivisions — Part 2: Country subdivision code*

ISO 3166-3:1999, *Codes for the representation of names of countries and their subdivisions — Part 3: Code for formerly used names of countries*

ISO/IEC 7810:1995, *Identification cards — Physical characteristics*<sup>1)</sup>

ISO/IEC 7816-4:2005, *Identification cards — Integrated circuit cards — Part 4: Organization, security and commands for interchange*

ISO/IEC 7816-5:2004, *Identification cards — Integrated circuit cards — Part 5: Registration of application providers*

ISO/IEC 7816-6:2004, *Identification cards — Integrated circuit cards — Part 6: Interindustry data elements for interchange*

ISO/IEC 7816-6:2004/Cor.1:2006, *Identification cards — Integrated circuit cards — Part 6: Interindustry data elements for interchange — Technical Corrigendum 1*

ISO/IEC 7816-8:2004, *Identification cards — Integrated circuit cards — Part 8: Commands for security operations*

ISO/IEC 7816-9:2004, *Identification cards — Integrated circuit cards — Part 9: Commands for card management*

ISO/IEC 7816-11:2004, *Identification cards — Integrated circuit cards — Part 11: Personal verification through biometric methods*

ISO/IEC 7816-15:2004, *Identification cards — Integrated circuit cards — Part 15: Cryptographic information application*

ISO 8601:2000, *Data elements and interchange formats — Information interchange — Representation of dates and times*<sup>2)</sup>

ISO/IEC 8825-1:2002, *Information technology — ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

ISO/IEC 8825-2:2002, *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)*

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1) ISO/IEC 7810:1995 has been cancelled and replaced by ISO/IEC 7810:2003.

2) ISO 8601:2000 has been cancelled and replaced by ISO 8601:2004.

ISO/IEC 8825-3:2002, *Information technology — ASN.1 encoding rules: Specification of Encoding Control Notation (ECN)*

ISO/IEC 8825-4:2002, *Information technology — ASN.1 encoding rules: XML Encoding Rules (XER)*

ISO/IEC 10373-6:2001 *Identification cards — Test methods — Part 6: Proximity cards*

ISO/IEC 10373-6:2001/Amd.1:2007, *Identification cards — Test methods — Part 6: Proximity cards — Amendment 1: Protocol test methods for proximity cards*

ISO/IEC 10373-6:2001/Amd.2:2003, *Identification cards — Test methods — Part 6: Proximity cards — Amendment 2: Improved RF test methods*

ISO/IEC 10373-6:2001/Amd.4:2006, *Identification cards — Test methods — Part 6: Proximity cards — Amendment 4: Additional test methods for PCD RF interface and PICC alternating field exposure*

ISO/IEC 10373-6:2001/Amd.5:2007, *Identification cards — Test methods — Part 6: Proximity cards — Amendment 5: Bit rates of  $fc/64$ ,  $fc/32$  and  $fc/16$*

ISO/IEC 10918 (all parts), *Information technology — Digital compression and coding of continuous-tone still images*

ISO/IEC 14443-1:2000, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 1: Physical characteristics*

ISO/IEC 14443-2:2001, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 2: Radio frequency power and signal interface*

ISO/IEC 14443-2:2001/Amd.1:2005, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 2: Radio frequency power and signal interface — Amendment 1: Bit rates of  $fc/64$ ,  $fc/32$  and  $fc/16$ .*

ISO/IEC 14443-3:2001, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 3: Initialization and anticollision*

ISO/IEC 14443-3:2001/Amd.1:2005, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 3: Initialization and anticollision — Amendment 1: Bit rates of  $fc/64$ ,  $fc/32$  and  $fc/16$*

ISO/IEC 14443-4, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 4: Transmission protocol*

ISO/IEC 15444 (all parts), *Information technology — JPEG 2000 image coding system*

ISO/IEC 19785-1, *Information technology — Common Biometric Exchange Formats Framework — Part 1: Data element specification*

ISO/IEC 19794-4, *Information technology — Biometric data interchange formats — Part 4: Finger image data*

ISO/IEC 19794-5, *Information technology — Biometric data interchange formats — Part 5: Face image data*

ISO/IEC 19794-6, *Information technology — Biometric data interchange formats — Part 6: Iris image data*

ISO/IEC 9796-2, *Information technology — Security techniques — Digital signature schemes giving message recovery — Part 2: Integer factorization based mechanisms*

ISO/IEC 9797-1:1999, *Information technology — Security techniques — Message Authentication Codes (MACs) — Part 1: Mechanisms using a block cipher*

## ISO/IEC 7501-1:2008(E)

The Unicode Consortium. The Unicode Standard, Version 4.0.0, defined by: *The Unicode Standard, Version 4.0* (Boston, MA, Addison-Wesley, 2003. ISBN 0-321-18578-1) (Consistent with ISO/IEC 10646:2003)

ISO 11568-2:2005, *Banking — Key management (retail) — Part 2: Symmetric ciphers, their key management and life cycle*

### Additional information

ISO/IEC 7501-1:2008 does not adopt the following Sections and Informative Appendices contained in the Sixth Edition of ICAO Doc 9303 Part 1:

from [Volume 1](#) – **Passports with Machine Readable Data Stored in Optical Character Recognition Format**

Section I	Introduction;
Informative Appendix 1 to Section III	Security Standards for machine readable travel documents;
Informative Appendix 2 to Section III	Machine-assisted document security verification; and
Informative Appendix 3 to Section III	The prevention of fraud associated with the issuance process;

and

from [Volume 2](#) – **Specifications for Electronically Enabled Passports with Biometric Identification Capability**

Section I	Introduction;
Informative Appendix 6 to Section IV	Work examples; and
Informative Appendix 7 to Section IV	PKI and Security Threats.



