

Third edition  
2008-06-01

---

---

## Identification cards — Recording technique —

### Part 6: Magnetic stripe — High coercivity

*Cartes d'identification — Technique d'enregistrement —  
Partie 6: Bandeau magnétique — Haute coercitivité*

---

---

Reference number  
ISO/IEC 7811-6:2008(E)



This is a preview of "ISO/IEC 7811-6:2008". [Click here to purchase the full version from the ANSI store.](#)

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO/IEC 7811-6:2008". [Click here to purchase the full version from the ANSI store.](#)

## Contents

Foreword.....	v
<b>1</b> Scope .....	<b>1</b>
<b>2</b> Conformance.....	<b>1</b>
<b>3</b> Normative references .....	<b>1</b>
<b>4</b> Terms and definitions .....	<b>2</b>
<b>5</b> Physical characteristics of the identification card.....	<b>4</b>
5.1 Magnetic stripe area warpage .....	4
5.2 Surface distortions .....	4
<b>6</b> Physical characteristics of the magnetic stripe .....	<b>5</b>
6.1 Height and surface profile of the magnetic stripe area .....	5
6.1.1 Surface profile of the magnetic stripe area.....	5
6.1.2 Height of the magnetic stripe area.....	7
6.2 Surface roughness .....	7
6.3 Adhesion of stripe to card .....	7
6.4 Wear of magnetic stripe from read/write head .....	7
6.5 Resistance to chemicals .....	7
<b>7</b> Performance characteristics for the magnetic material .....	<b>7</b>
7.1 General.....	7
7.2 Testing and operating environment.....	8
7.3 Signal amplitude requirements for magnetic media .....	8
<b>8</b> Encoding technique.....	<b>10</b>
<b>9</b> Encoding specification, general.....	<b>11</b>
9.1 Angle of recording .....	11
9.2 Nominal bit density.....	11
9.3 Signal amplitude requirements for tracks 1, 2 and 3 .....	11
9.4 Bit configuration .....	12
9.5 Direction of recording .....	12
9.6 Leading and trailing zeroes .....	12
<b>10</b> Encoding specifications .....	<b>13</b>
10.1 Alphanumeric track, track 1.....	13
10.1.1 Average bit density.....	13
10.1.2 Flux transition spacing variation .....	13
10.1.3 Coded character set .....	14
10.1.4 Maximum number of characters for ID-1 type card.....	16
10.2 Numeric track, Track 2 .....	16
10.2.1 Average bit density.....	16
10.2.2 Flux transition spacing variation .....	16
10.2.3 Coded character set .....	17
10.2.4 Maximum number of characters for ID-1 type card.....	17
10.3 Numeric track, Track 3 .....	17
10.3.1 Average bit density.....	17
10.3.2 Flux transition spacing variation .....	17
10.3.3 Coded character set .....	17
10.3.4 Maximum number of characters for ID-1 type card.....	18
<b>11</b> Error detection .....	<b>18</b>
11.1 Parity .....	18
11.2 Longitudinal redundancy check (LRC).....	18

This is a preview of "ISO/IEC 7811-6:2008". [Click here to purchase the full version from the ANSI store.](#)

<b>12</b>	<b>Location of encoded tracks .....</b>	<b>18</b>
<b>Annex A</b> (informative)	<b>Read compatibility of magnetic stripes (ISO/IEC 7811-2 and ISO/IEC 7811-6) .....</b>	<b>20</b>
<b>Annex B</b> (normative)	<b>Signal amplitude measurements .....</b>	<b>21</b>
<b>Annex C</b> (informative)	<b>Magnetic stripe abrasivity .....</b>	<b>22</b>
<b>Annex D</b> (informative)	<b>Static magnetic characteristics .....</b>	<b>23</b>

This is a preview of "ISO/IEC 7811-6:2008". [Click here to purchase the full version from the ANSI store.](#)

## 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 7811-6 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

This third edition cancels and replaces the second edition (ISO/IEC 7811-6:2001). It also incorporates the Amendment ISO/IEC 7811-6:2001/Amd.1:2005. The major changes from the second edition are as follows.

- Wherever possible, the same definitions, criteria and test methods are used in ISO/IEC 7811-2 and ISO/IEC 7811-6.
- The algorithm defined in Figure 7 of ISO/IEC 7811-6:2001 has been changed to produce more consistent results (incorporated from ISO/IEC 7811-6:2001/Amd.1:2005).

NOTE The requirements given in ISO/IEC 7811-4:1995 and ISO/IEC 7811-5:1995 were moved to Part 6 in the second edition.

Notes in this part of ISO/IEC 7811 are only used for giving additional information intended to assist in the understanding or use of the document. They do not contain provisions or requirements to which it is necessary to conform in order to claim compliance with this part of ISO/IEC 7811.

ISO/IEC 7811 consists of the following parts, under the general title *Identification cards — Recording technique*:

- *Part 1: Embossing*
- *Part 2: Magnetic stripe — Low coercivity*
- *Part 6: Magnetic stripe — High coercivity*
- *Part 7: Magnetic stripe — High coercivity, high density*
- *Part 8: Magnetic stripe — Coercivity of 51,7 kA/m (650 Oe)*
- *Part 9: Tactile identifier mark*