

# American National Standard

INCITS/ISO/IEC 7811-7:2018 (2019)

(ISO/IEC 7811-7:2018, IDT)

*Identification cards -- Recording technique --  
Part 7: Magnetic stripe: High coercivity, high  
density*

**Developed by**



*Where IT all begins*



## INCITS/ISO/IEC 7811-7:2018 (2019)

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## Identification cards — Recording technique —

### Part 7: Magnetic stripe: High coercivity, high density

*Cartes d'identification — Technique d'enregistrement —*

*Partie 7: Bandeau magnétique: Haute coercivité, haute densité*



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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by ISO/IEC JTC 1, *Information technology, SC 17, Cards and personal identification*.

This third edition cancels and replaces the second edition (ISO/IEC 7811-7:2014), which has been technically revised.

Major changes from the previous edition are as follows:

- the primary standard cards held by Q-Card are used to calibrate the manufacture of secondary reference cards; other primary standard cards held by PTB and Card Testing International (CTI) are used as backup to replace cards held by Q-Card as they wear out;
- deleted reference to character sets in the Scope since none are used in this document;
- list of major differences has been moved from the Introduction to [Annex A](#);
- the supplier of secondary reference cards has changed from PTB to Q-Card.

Notes in this document 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 be able to claim compliance with this document.

A list of all the parts in the ISO/IEC 7811 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

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# Identification cards — Recording technique —

## Part 7:

# Magnetic stripe: High coercivity, high density

## 1 Scope

This document is one of a series of standards describing the characteristics for identification cards as defined in the definitions clause and the use of such cards for international interchange.

This document specifies requirements for a high coercivity magnetic stripe (including any protective overlay) on an identification card and encoding technique. It takes into consideration both human and machine aspects and states minimum requirements.

Coercivity influences many of the quantities specified in this document but is not itself specified. The main characteristic of the high coercivity magnetic stripe is its improved resistance to erasure. This is achieved with minimal probability of damage to other magnetic stripes by contact while retaining read compatibility with magnetic stripes as defined in ISO/IEC 7811-2.

This document provides for a card capacity of approximately 10 times that of a card conforming to ISO/IEC 7811-6. The number of tracks has been increased to 6, each track being approximately half the width of tracks conforming to ISO/IEC 7811-6, located so that readers designed to read these high density tracks will also be able to read cards conforming to ISO/IEC 7811-2 and ISO/IEC 7811-6. Data is encoded in 8 bit bytes using the MFM encoding technique. Data framing is used to limit error propagation and error correction techniques further improve reliability of reading.

It is the purpose of the ISO/IEC 7811 series of standards to provide criteria to which cards shall perform. No consideration is given within these standards to the amount of use, if any, experienced by the card prior to test. Failure to conform to specified criteria is negotiated between the involved parties.

ISO/IEC 10373-2 specifies the test procedures used to check cards against the parameters specified in this document.

**NOTE** Numeric values in the SI and/or Imperial measurement system in this document may have been rounded off and are consistent with, but not exactly equal to each other. Using either system is correct but intermixing or reconvertng values can result in errors. The original design was made using the Imperial measurement system.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

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

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

ISO/IEC 10373-2, *Identification cards — Test methods — Part 2: Cards with magnetic stripes*