

International Standard



7811/2

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Identification cards — Recording technique — Part 2: Magnetic stripe

Cartes d'identification — Technique d'enregistrement — Partie 2: Magnétique

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7811/2 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

The following International Standards cancel and replace ISO 2894 and ISO 3554, of which they constitute a technical revision:

ISO 7810, ISO 7811/1, ISO 7811/2, ISO 7811/3, ISO 7811/4, ISO 7811/5, ISO 7812, ISO 7813.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Identification cards — Recording technique —

Part 2: Magnetic stripe

0 Introduction

This International Standard is one of a series of standards describing the parameters for identification cards as defined in clause 3 below and the use of such cards for international interchange.

1 Scope and field of application

This part of ISO 7811 specifies characteristics for a magnetic stripe (including any protective overlay) on an identification card, the encoding technique and coded character sets. The magnetic recordings are intended for machine reading.

2 References

ISO 7810, *Identification cards — Physical characteristics*.

ISO 7811, *Identification cards — Recording technique*

— Part 4: *Location of read-only magnetic tracks — Tracks 1 and 2.*

— Part 5: *Location of read-write magnetic track — Track 3.*

3 Definitions

For the purpose of this part of ISO 7811, the definition of "identification card" given in ISO 7810 and the following definitions apply.

3.1 primary standard: The NBS Master Standard Magnetic Tape (computer amplitude reference) kept in repository at the United States National Bureau of Standards (NBS).

NOTE — The relationship (correction factor) between the Master Standard and reference tape SRM 3200 is given by the NBS certificate supplied with the tape.

3.2 reference card¹⁾: A reference card, which shall be considered a secondary standard, comprises an ID card with a magnetic stripe consisting of secondary standard magnetic tape (computer amplitude reference) SRM 3200.

NOTE — The secondary reference card should be corrected to the master standard first using the correction factor provided by the supplier. Then the location of the window is calculated (see figure 5).

3.3 flux transition: The location of the maximum of the magnitude of the magnetic flux component normal to the surface of the magnetic stripe.

3.4 reference current (I_R): The minimum recording current amplitude (square wave) which causes on the reference card, under the given test conditions, a readback voltage amplitude equal to 80 % of the maximum amplitude (see figure 5) at a density of 8 ftpmm (flux transitions per millimetre) [200 ftpi (flux transitions per inch)].

3.5 test recording currents: Two test recording currents (square wave) at 350 % and 500 % of the reference current (I_R) shall be used.

3.6 average signal amplitude: The readback voltage, measured peak-to-peak, averaged over the total recording area of a card when recorded with the test recording current at the specified recording density.

3.7 reference signal amplitude: The maximum average signal amplitude of the reference card corrected to the master standard.

3.8 individual signal amplitude: The peak-to-peak amplitude of a single readback voltage signal.

3.9 test density: Densities of 8 ftpmm (200 ftpi) and 20 ftpmm (500 ftpi) which may be used for testing.

NOTE — When testing with the reference card, densities of 6 ftpmm (150 ftpi) and 16,6 ftpmm (420 ftpi) may be used. The correlation factors are:

$$\frac{\text{amplitudes 6 ftpmm (150 ftpi)}}{\text{amplitudes 8 ftpmm (200 ftpi)}} \times 100 = 100 \%$$

$$\frac{\text{amplitudes 16,6 ftpmm (420 ftpi)}}{\text{amplitudes 20 ftpmm (500 ftpi)}} \times 100 = 105 \%$$

¹⁾ These cards can be ordered from Physikalisch-Technische Bundesanstalt, Lab. 1.41 — Bundesallee 100, D-3 300 Braunschweig, Germany, F.R. as long as available.