Australian Standard®

IDENTIFICATION CARDS—RECORDING TECHNIQUE

Part 2—MAGNETIC STRIPE

This Australian Standard was prepared by Committee IS/1, Information Processing Systems. It was approved on behalf of the Council of the Standards Association of Australia on 17 December 1987 and published on 5 February 1988.

The following interests are represented on Committee IS/1:

Australian Association of Permanent Building Societies
Australian Bankers' Association
Australian Bureau of Statistics
Australian Computer Equipment Manufacturers Association
Australian Computing Services Association
Australian Computer Society
Australian Computer Users Association
Australian Information Industry Association
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Part 2—MAGNETIC STRIPE

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PREFACE

This Standard was prepared by the Association's Committee on Information Processing Systems. It has been reproduced from International Standard ISO 7811/2—1985 drawn up by ISO/TC 97, Information Processing Systems.

This Standard (AS 3522.2), together with all the other parts of the AS 3522[2] series and, in addition, AS 3521[1], AS 3523[3], AS 3524[4] and AS 3525[5], supersedes the following Standards:

AS 2623.1, Credit Cards—Part 1—1983: Specifications, Numbering System and Registration Procedure.

AS 2623.2, Credit Cards—Part 2—1983: Magnetic Stripe Encoding for Tracks 1, 2 and 3.

AS 2623.3, Credit Cards—Part 3—1983: Magnetic Stripe Data Content for Track 3.

Numeric values in the SI system in this Standard may have been rounded during conversion from imperial measurements, and are therefore consistent with, but not exactly equal to, the values in the original design which were given using the imperial system. In use, the two should be neither intermixed nor reconverted. However, following the practice in the International Standard, imperial values are given parentheses.

For the purpose of this Australian Standard, the text of the International Standard used herein should be modified as follows:

(a) *Terminology:* The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.

(b) *Decimal comma:* The decimal point should replace the decimal comma wherever it appears.

(c) *Cross-references:* The references to International Standards should be replaced by references to Australian Standards as follows:

Reference to International Standard	*Appropriate Australian Standard*
ISO 7810, Identification cards—Physical characteristics	AS 3521, Identification cards—Physical characteristics
ISO 7811, Identification cards—Recording technique	AS 3522, Identification cards—Recording technique
Part 4: Location of read-only magnetic tracts—Tracks 1 and 2	AS 3522.4: Location of read-only magnetic tracks—Tracks 1 and 2
Part 5: Location of read-write magnetic track—Track 3.	AS 3522.5: Location of read-write magnetic track—Track 3

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[1]AS 3521, Identification Cards—Physical Characteristics

[2]AS 3522, Identification Cards—Recording Technique

[3]AS 3523, Identification Cards—Numbering System and Registration Procedure for Issuer Identifiers

[4]AS 3524, Identification Cards—Financial Transaction Cards

[5]AS 3525, Bank Cards—Magnetic Stripe Data Content for Track 3

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 certification supplied with the tape.

3.2 reference card[1)]: 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.