

Australian Standard[®]

Information processing systems—

**Data interchange on 90 mm
flexible disk cartridges using
modified frequency modulation
recording at 7 958 ftprad on
80 tracks on each side—**

Part 2: Track format

(ISO Title: Information processing—Data interchange on 90 mm
(3.5 in) flexible disk cartridges using modified frequency modulation
recording at 7 958 ftprad on 80 tracks on each side—
Part 2: Track formats)

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Australian Bankers' Association

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Australian Computer Equipment Manufacturers Association

Australian Computer Users Association

Australian Computing Services Association

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PREFACE

This Standard was prepared by Standards Australia's Committee on Information Processing Systems. It is identical with and has been reproduced from International Standard ISO 8860; drawn up by ISO TC 97, Information Processing Systems.

It is part of an ongoing program of review and addition of input/output media Standards.

For the purposes of this Australian Standard, the ISO text should be modified as follows:

- (a) *Terminology*—The words 'Australian Standard' should replace the words 'International Standard' whenever they appear.
- (b) *Cross-references*—The references to International Standards should be replaced by references to Australian Standards as follows.

<i>Reference to International Standard or other Publication</i>	<i>Australian Standard:</i>
ISO	AS
646 Information processing—ISO 7-bit coded character set for information interchange	2765 Information processing—7-bit coded character set for information interchange
2022 Information processing—ISO 7-bit and 8-bit coded character sets—Code extension techniques	1953 Information processing—ISO 7-bit and 8-bit coded character sets—Code extension techniques
8860-1 Information processing—Data interchange on 90 mm (3.5 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftrpad on 80 tracks each side—Part 1: Dimensional, physical and magnetic characteristics	3631.1 Information processing systems—Data interchange on 90 mm flexible disk cartridges using modified frequency modulation recording at 7 958 ftrpad on 80 tracks each side—Part 1: Dimensional, physical and magnetic characteristics
9293 Information processing—Volume and file structure of flexible disk cartridges for information interchange	3632 Information processing—Volume and file structure of flexible disk cartridges for information interchange

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Contents

	Page
0 Introduction	5
1 Scope and field of application	5
2 Conformance	5
3 References	5
4 General requirements	5
4.1 Mode of recording	5
4.2 Track location tolerance of the recorded flexible disk cartridge	5
4.3 Recording offset angle	5
4.4 Density of recording	6
4.5 Flux transition spacing	6
4.6 Average Signal Amplitude	7
4.7 Byte	7
4.8 Sector	7
4.9 Cylinder	7
4.10 Cylinder number	7
4.11 Data capacity of a track	7
4.12 Hexadecimal notation	7
4.13 Error Detection Characters (EDC)	7
Track layout	7
5.1 Index Gap	7
5.2 Sector Identifier	7
5.3 Identifier Gap	8
5.4 Data Block	8
5.5 Data Block Gap	8
5.6 Track Gap	8

	Page
6 Coded representation of data	8
6.1 Standards	8
6.2 Coding methods	8
 Annexes	
A EDC implementation	10
B Procedure and equipment for measuring flux transition spacing	11
C Data separators for decoding MFM recording	11
 Bibliography	 14

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Information processing systems—Data interchange on 90 mm flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad on 80 tracks on each side—Part 2: Track format

0 Introduction

ISO 8860 specifies the characteristics of 90 mm (3.5 in) flexible disk cartridges recorded at 7 958 ftprad using Modified Frequency Modulation (MFM) recording on 80 tracks on each side.

ISO 8860-1 specifies the mechanical, physical and magnetic characteristics of the cartridge, so as to provide physical interchangeability between data processing systems.

ISO 8860-1 and ISO 8860-2, together with the labelling scheme specified in ISO 9293, provide for full data interchange between data processing systems.

1 Scope and field of application

This part of ISO 8860 specifies the track layout, track format and the characteristics of recorded signals.

NOTE — Numeric values in the SI and/or commercial measurement system in this part of ISO 8860 may have been rounded off and therefore are consistent with, but not exactly equal to, each other. Either system may be used, but the two should be neither intermixed nor re-converted. The original design was made using SI units.

2 Conformance

A 90 mm (3.5 in) flexible disk cartridge shall be in conformance with this part of ISO 8860 if it meets all mandatory requirements contained herein.

A prerequisite for conformance with this part of ISO 8860 is conformance with ISO 8860-1.

3 References

ISO 646, *Information processing — ISO 7-bit coded character set for information interchange.*

ISO 2022, *Information processing — ISO 7-bit and 8-bit coded character sets — Code extension techniques.*

ISO 4873, *Information processing — ISO 8-bit code for information interchange — Structure and rules for implementation.*

ISO 8860-1, *Information processing — Data interchange on 90 mm (3.5 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad on 80 tracks on each side — Part 1: Dimensional, physical and magnetic characteristics.*

ISO 9293, *Information processing — Volume and file structure of flexible disk cartridges for information interchange.*

4 General requirements

4.1 Mode of recording

The mode of recording shall be Modified Frequency Modulation (MFM) for which the conditions are

- a flux transition shall be written at the centre of each bit cell containing a ONE;
- a flux transition shall be written at each cell boundary between consecutive bit cells containing ZEROS.

Exceptions to this are defined in 4.12.

4.2 Track location tolerance of the recorded flexible disk cartridge

The centrelines of the recorded tracks shall be within $\pm 0,028$ mm ($\pm 0,001$ in) of the nominal positions and over the range of operating environment specified in ISO 8860-1.

4.3 Recording offset angle (see figure 1)

At the instant of writing or reading a magnetic transition, the transition shall have an angle of

$$\theta = \arcsin \left(\frac{d}{R_n} \right) \pm 18'$$

where R_n is the radius through that transition (see ISO 8860-1).