INTERNATIONAL STANDARD

ISO/IEC 12247

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Information technology — 3,81 mm wide magnetic tape cartridge for information interchange — Helical scan recording — DDS format using 60 m and 90 m length tapes

Technologies de l'information — Cartouche de bande magnétique de 3,81 mm *de large pour l'échange d'information — Enregistrement par balayage en spirale — Format DDS utilisant des bandes de* 60 m *et* 90 m *de long*

Reference number
ISO/IEC 12247:1993(E)

Contents

Foreword

ISO (the International Organization for Standardization) and IEC (thc 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. 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.

International Standard ISO/IEC 12247 was prepared by the European Computer Manufacturers Association (ECMA) (as Standard ECMA-170) and was adopted, under a special "fast-track procedure", by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.

Annexes A, D, E, F, G, H and K form an integral part of this International Standard. Annexes B, C, J, L, M and N are for information only.

Introduction

ISO/IEC have produced a series of International Standards for cassettes and cartridges containing magnetic tapes of different width and characteristics. Of these, the following relate to helical scan recording.

ISO/IEC 10777:1991, *Information technology - 3,81 mm wide magnetic tape cartridge for information interchange - Helical scan recording - DDS format.*

ISO/IEC 11319:1993, *Information technology - 8 mm wide magnetic tape cartridge for information interchange - Helical scan recording.*

ISO/IEC 11321:1992, *Information technology - 3,81 wide magnetic tape cartridge for information interchange - Helical scan recording - DATA/DAT format.*

ISO/IEC 11557:1992, *Information technology - 3,81 wide magnetic tape cartridge for information interchange - Helical scan recording - DDS-DC format using 60 m and 90 m length tapes.*

ISO/IEC 12246:1993, *Information technology - 8 mm wide magnetic tape cartridge dual azimuth format for information interchange - Helical scan recording.*

ISO/IEC 12248:1993, *Information technology - 3,81 wide magnetic tape cartridge for information interchange - Helical scan recording - DATA/DAT-DC format using 60 m and 90 length tapes.*

This International Standard is a further International Standard for the same recorded format as given in ISO/IEC 10777, but which supports two types of cartridges. For Type A, the magnetic tape has a nominal thickness of 13 µm. For Type B, the magnetic tape has a nominal thickness of 9 µm. This International Standard also includes the specifications of the Media Recognition System, namely a striped splicing tape.

A companion International Standard ISO/IEC 11557 defines another data interchange specification for the same cartridges, but with a recorded format, namely DDS-DC, which enables data to be compressed by the drive before being recorded.

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Section 1 - General

1 Scope

This International Standard specifies the physical and magnetic characteristics of a 3,81 mm wide magnetic tape cartridge to enable interchangeability of such cartridges. It also specifies the quality of the recorded signals, the recorded format and the recording method, thereby allowing data interchange between drives by means of such magnetic tape cartridges. The format used is known as Digital Data Storage (DDS).

This International Standard specifies two types of cartridge which, for the purpose of this International Standard, are referred to as Type A and Type B.

For Type A, the magnetic tape has a nominal thickness of 13 µm and a nominal length of up to 60,5 m.

For Type B, the magnetic tape has a nominal thickness of 9 µm and a nominal length of up to 92,0 m.

Information interchange between systems by means of this International Standard also requires the use, at a minimum, of a labelling and file structure and an interchange code which are agreed upon by the interchange parties. It is not within the scope of this International Standard to specify the labelling and file structure, or the interchange code.

2 Conformance

2.1 Magnetic tape cartridge

A tape cartridge shall be in conformance with this International Standard if it meets all mandatory requirements specified herein for either Type A or Type B. The tape requirements shall be satisfied throughout the extent of the tape. A recorded tape shall be either a Single Data Space Tape or a partitioned tape.

A claim of conformance shall state whether the optional feature for the Media Recognition System (MRS) is incorporated (see annex N).

2.2 Generating system

A system generating a magnetic tape cartridge for interchange shall be entitled to claim conformance with this International Standard if all recordings on the tape meet the mandatory requirements of this International Standard, and if either or both methods of appending and overwriting are implemented.

A claim of conformance shall state whether cartridges of Type A or Type B or both are supported. In addition a claim of conformance shall also state which of the following optional features are implemented and which are not:

- the performing of a Read-After-Write check and the recording of any necessary repeated frames,
- the recording of multiple representations of the same Basic Group,
- the generation of ECC3 Frames.

A claim of conformance shall also state the differences in its operation, if any, which depend upon the presence, or absence, of the MRS feature in the cartridge.

2.3 Receiving system

A system receiving a magnetic tape cartridge for interchange shall be entitled to claim conformance with this International Standard if it is able to handle any recording made on the tape according to this International Standard. In particular it shall be able:

- to recognize repeated frames and to make available to the user data and Separator Marks from only one of these frames,
- to recognize multiple representations of the same Basic Group and to make available to the user data and Separator Marks from only one of these representations,
- to update the System Log(s) if the Write-inhibit Hole state so permits,
- to recognize an ECC3 frame, and ignore it if the system is not capable of using ECC3 check bytes in a process of error correction.

A claim of conformance shall state whether or not the system is capable of using ECC3 check bytes in a process of error correction.

In addition a claim of conformance shall also state whether cartridges of Type A or Type B or both are supported.

A claim of conformance shall also state the differences in its operation, if any, which depend upon the presence, or absence, of the MRS feature in the cartridge.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/R 527:1966, *Plastics - Determination of tensile properties.*

ISO 1302:1992, *Technical Drawings - Method of indicating surface texture.*

IEC 950:1991, *Safety of information technology equipment, including electrical business equipment.*