INTERNATIONAL STANDARD

ISO/IEC 15521

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Information technology — 3,81 mm wide magnetic tape cartridge for information interchange — Helical scan recording — DDS-3 format using 125 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-3 utilisant des bandes de* 125 m *de long*

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. 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 15521 was prepared by JISC (as Standard JIS X.6130-1996) with document support and contribution from ECMA 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, B, C, D, E, F and G form an integral part of this International Standard. Annexes H, J, K, L and M are for information only.

Information technology — 3,81 mm wide magnetic tape cartridge for information interchange — Helical scan recording — DDS-3 format using 125 m length tapes

1 Scope

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

Information interchange between systems also requires, at a minimum, agreement between the interchange parties upon the interchange code(s) and the specifications of the structure and labelling of the information on the interchanged cartridge.

Under information interchange circumstances in which a processing algorithm, e.g. for lossless data compression as specified in ISO/IEC 11558, is applied to the host data prior to recording on the tape and a complementary reprocessing algorithm is applied after the data is read from the tape, agreement upon these by the interchange parties is also required.

2 Conformance

2.1 Magnetic tape cartridge

A tape cartridge shall be in conformance with this International Standard if it meets all the mandatory requirements specified herein. The tape requirements shall be satisfied throughout the extent of the tape.

For each recorded Entity any algorithm for lossless data compression used for processing the data therein shall have been registered, and according to ISO/IEC 11576 the corresponding numerical identifier shall be recorded in Byte No. 3 of the Entity Header.

2.2 Generating drive

A drive generating a magnetic tape cartridge for interchange shall be in 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 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 generation of ECC3 Frames.

In addition a claim of conformance shall state

- whether or not one, or more, registered algorithm(s) are implemented within the system and are able to process data received from the host prior to collecting the data into Basic Groups, and
- the algorithm registration identification number(s) of the implemented algorithm(s).

2.3 Receiving drive

A drive receiving a magnetic tape cartridge for interchange shall be in 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 host, data and Separator Marks from only one of these frames;
- be able 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;
- be able to recognize processed data within an Entity, identify the algorithm used, and make the algorithm registration number available to the host;
- be able to make processed data available to the host.

In addition a claim of conformance shall state

- whether or not the system is capable of using ECC3 check bytes in a process of error correction;

- whether or not one or more reprocessing algorithm(s) are implemented within the system, and are able to be applied to processed data prior to making such data available to the host;
- the algorithm registration number(s) of the processing algorithm(s) for which a complementary reprocessing algorithm is implemented.

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 standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 527 (all parts), *Plastics — Determination of tensile properties.*

ISO 1302:1992, *Technical drawings — Method of indicating surface texture.*

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

ISO/IEC 11576:1994, *Information technology — Procedure for the registration of algorithms for the lossless compression of data.*

ISO/IEC 12247:1993, *Information technology — 3,81mm wide magnetic tape cartridge for information interchange — Helical scan recording — DDS format using 60 m and 90 m length tapes.*

ISO/IEC 13923:1996, *Information technology — 3,81 mm wide magnetic tape cartridge for information interchange — Helical scan recording — DDS-2 format using 120 m length tape.*

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

IEC 1119-1:1992, *Digital audio tape cassette system (DAT) — Part 1: Dimensions and characteristics.*