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Information technology — 3,81 mm wide magnetic tape cartridge for information interchange — Helical scan recording — DDS-4 format

Technologies de l'information — Cartouche à bande magnétique de 3,81 mm de large pour l'échange d'information — Enregistrement par balayage en spirale — Format DDS-4

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Contents

Section 1 - General **1**

1 Scope **1**

2 Conformance **1**

2.1 Magnetic tape cartridge **1**
2.2 Generating drive **1**
2.3 Receiving drive **1**

3 Normative references **2**

4 Definitions **2**

4.1 Absolute Frame Number (AFN) **2**
4.2 a.c. erase **2**
4.3 Access Point **2**
4.4 algorithm **2**
4.5 Area ID **2**
4.6 Average Signal Amplitude **2**
4.7 azimuth **2**
4.8 back surface **2**
4.9 byte **2**
4.10 cartridge **2**
4.11 Channel bit **2**
4.12 Codeword **2**
4.13 Data Format ID **2**
4.14 Early Warning Point (EWP) **2**
4.15 End of Data (EOD) **2**
4.16 Entity **2**
4.17 Error Correcting Code (ECC) **2**
4.18 flux transition position **2**
4.19 flux transition spacing **2**
4.20 Fragment **2**
4.21 Frame **3**
4.22 Housekeeping Frame **3**
4.23 Logical Beginning of Tape (LBOT) **3**
4.24 magnetic tape **3**
4.25 Master Standard Amplitude Calibration Tape **3**
4.26 Master Standard Reference Tape **3**
4.27 Optimum Recording Field **3**
4.28 Partition Boundary **3**
4.29 Physical Beginning of Tape (PBOT) **3**
4.30 Physical End of Tape (PEOT) **3**
4.31 physical recording density **3**
4.32 pre-recording condition **3**
4.33 processing **3**
4.34 processed data **3**
4.35 Processed Record **3**
4.36 Processed Record Sequence **3**

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4.37 record **3**
4.38 Reference Recording Field**3**
4.39 reprocessing **3**
4.40 Secondary Standard Amplitude Calibration Tape **3**
4.41 Secondary Standard Reference Tape **3**
4.42 Separator Mark **4**
4.43 Standard Reference Amplitude **4**
4.44 Tape Reference Edge **4**
4.45 Test Recording Current **4**
4.46 track **4**
4.47 Unprocessed Record **4**
4.48 Virtual End of Tape (VEOT) **4**

5 Conventions and Notations **4**

6 Acronyms **4**

7 Environment and safety **4**

7.1 Testing environment **4**
7.2 Operating environment **5**
7.3 Storage environment **5**
7.4 Transportation **5**
7.5 Safety **5**
7.6 Flammability **5**

Section 2 - Requirements for the case **6**

8 Dimensional and mechanical characteristics of the case **6**

8.1 General **6**
8.2 Overall dimensions **6**
8.3 Loading grip **7**
8.4 Holding areas **7**
8.5 Notches of the lid **7**
8.6 Lid dimensions **7**
8.7 Optical detection of the beginning and end of tape **8**
8.8 Bottom side **8**
8.8.1 Locking mechanism of the slider **8**
8.8.2 Access holes **9**
8.8.3 Recognition, sub-datums, and write-inhibit holes **9**
8.8.4 Datum holes **11**
8.8.5 Access room for tape guides **11**
8.8.6 Holes for accessing the hubs **11**
8.8.7 Internal structure of the lower half **11**
8.8.8 Light path **12**
8.8.9 Support Areas **13**
8.8.10 Datum Areas **13**
8.8.11 Relationship between Support and Datum Areas and Reference Plane Z **13**
8.9 Hubs **13**
8.10 Attachment of leader and trailer tapes **14**
8.11 Interface between the hubs and the drive spindles **14**
8.12 Opening of the lid **14**
8.13 Release of the hub locking mechanism **14**
8.14 Label areas **14**
8.15 Requirement for autoloaders **15**

Section 3 - Requirements for the unrecorded tape **28**

9 Mechanical, physical and dimensional characteristics of the tape **28**

9.1 Materials **28**

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9.2	Tape length	**28**
9.2.1	Length of magnetic tape	**28**
9.2.2	Length of leader and trailer tapes	**28**
9.2.3	Length of splicing tapes	**28**
9.3	Tape width	**28**
9.3.1	Width of magnetic tape	**28**
9.3.2	Width of leader and trailer tapes	**28**
9.3.3	Width and position of splicing tape	**28**
9.3.4	Edge weave	**28**
9.4	Discontinuities	**29**
9.5	Tape thickness	**30**
9.5.1	Thickness of magnetic tape	**30**
9.5.2	Thickness of leader and trailer tape	**30**
9.5.3	Thickness of splicing tape	**30**
9.6	Longitudinal curvature	**30**
9.7	Cupping	**30**
9.8	Coating adhesion	**30**
9.9	Layer-to-layer adhesion	**31**
9.10	Tensile strength	**31**
9.10.1	Breaking strength	**31**
9.10.2	Yield strength	**31**
9.11	Residual elongation	**31**
9.12	Flexural rigidity	**31**
9.13	Electrical resistance of coated surfaces	**32**
9.14	Abrasivity	**32**
9.15	Light transmittance of the tape	**32**
9.16	Media Recognition System (MRS)	**33**
10	Magnetic recording characteristics	**33**
10.1	Optimum Recording Field	**34**
10.2	Signal Amplitude	**34**
10.3	Resolution	**34**
10.4	Overwrite	**34**
10.5	Ease of erasure	**35**
10.6	Tape quality	**35**
10.6.1	Missing pulses	**35**
10.6.2	Missing pulse zone	**35**
10.7	Signal-to-Noise Ratio (SNR) characteristic	**35**
Section 4 - Requirements for an interchanged tape		**35**
11	Format	**35**
11.1	General	**35**
11.2	Basic Groups	**36**
11.2.1	Entity	**36**
11.2.2	Group Information Table	**37**
11.2.3	Block Access Table (BAT)	**39**
11.3	Sub-Groups	**42**
11.3.1	G1 Sub-Group	**42**
11.3.2	G2 Sub-Group - Randomizing	**42**
11.3.3	G3 Sub-Group	**43**
11.3.4	G4 Sub-Group	**44**
11.3.5	Main Data Fragment	**48**
11.3.6	Summary of the transformation of a Basic Group	**50**
11.4	Sub code information	**50**
11.4.1	Pack Item Number 0	**50**
11.4.2	Pack Item Number 1	**50**

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11.4.3 Pack Item Number 2 **51**
11.4.4 Pack Item Number 3 **51**
11.4.5 Pack Item Number 4 **51**
11.4.6 Pack Item Number 5 **52**
11.4.7 Pack Item Number 6 **53**
11.4.8 Pack Item Number 7 **53**
11.4.9 Pack Item Number 8 **54**
11.4.10 Pack Item Number 9 **54**
11.4.11 Pack Item Number 10 **54**
11.4.12 Pack Item Number 11 **55**
11.4.13 Pack Item Number 12 **55**
11.4.14 Pack Item Number 13 **56**
11.4.15 Pack Item Number 14 **56**
11.4.16 Pack Item Number 15 **57**
11.5 Sub code location **57**
11.5.1 Sub code Pack Items on a Single Data Space tape **57**
11.5.2 Sub code Pack Items on a partitioned tape **57**

12 Method of recording **58**

12.1 Physical recording density **58**
12.2 Long-term average bit cell length **58**
12.3 Short-term average bit cell length **58**
12.4 Rate of change **58**
12.5 Bit shift **58**
12.6 Read signal amplitude **58**
12.7 Maximum recorded levels **58**

13 Track geometry **58**

13.1 Track configuration **58**
13.2 Average track pitch **59**
13.3 Variations of the track pitch **59**
13.4 Track width **59**
13.5 Track angle **59**
13.6 Track edge linearity **59**
13.7 Track length **60**
13.8 Ideal tape centreline **60**
13.9 Azimuth angles **60**

14 Recorded patterns **60**

14.1 Recorded Main Data Fragment **60**
14.2 Preamble Zone, Margin Zones **60**

15 Format of a track **60**

15.1 Format of a track **60**
15.2 Positioning accuracy **60**
15.3 Tracking scheme **61**

16 Layout of a Single Data Space tape **61**

16.1 Device Area **61**
16.2 Reference Area **62**
16.3 Position Tolerance Band No. 1 **62**
16.4 System Area **62**
16.4.1 System Preamble **62**
16.4.2 System Log **62**
16.4.3 System Postamble **62**
16.4.4 Position Tolerance Band No. 2 **62**
16.4.5 Vendor Group Preamble **62**

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16.5 Data Area **62**
16.5.1 Vendor Group **62**
16.5.2 Recorded Data Group **63**
16.5.3 ECC3 **63**
16.5.4 Repeated Frames **63**
16.5.5 Appending and overwriting **64**
16.6 EOD Area **65**
16.7 Post-EOD Area **65**
16.8 Early Warning Point - (EWP) **66**
16.9 Initialization **66**

17 Layout of a partitioned tape **66**

17.1 Overall magnetic tape layout **67**
17.1.1 Device Area **67**
17.1.2 Partition 1 **67**
17.1.3 Partition 0 **68**
17.2 Area ID **68**
17.3 System Area Pack Items No. 6 **68**
17.4 Empty partitions **69**
17.4.1 Empty partition 1 **69**
17.4.2 Empty partition 0 **69**
17.5 Initialization of partitioned tapes **69**

18 Housekeeping Frames **69**

18.1 Amble Frames **69**
18.2 System Log Frames **69**
18.3 Tape Management Frames **70**

Annexes

A - Measurement of the light transmittance of the prisms **71**

B - Measurement of light transmittance of tape and leaders **73**

C - Measurement of Signal-to-Noise Ratio **76**

D - Method for determining the Nominal and the Maximum Allowable Recorded Levels **77**

E - Representation of 8-bit bytes by 10-bit patterns **78**

F - Measurement of bit shift **90**

G - Measurement of track edge linearity **92**

H - Tape abrasicity measurement procedure **93**

J - Method of measurement of the track width **95**

K - Recognition Holes **97**

L - Means to open the lid **98**

M - Recommendations for transportation **100**

N - Read-After-Write **101**

P - Example of the content of a Basic Group No. 0 **102**

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

This International Standard was prepared by collaboration between the JISC and the ECMA Standard Bodies (as Standard JIS X 6137 and ECMA-288) 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, G, H and J form a normative part of this International Standard. Annexes K, L, M, N and P are for information only.

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Information technology – 3,81 mm wide magnetic tape cartridge for information interchange - Helical scan recording - DDS-4 format

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 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 4 (DDS-4) - 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;

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— the algorithm registration number(s) of the processing algorithm(s) for which a complementary reprocessing algorithm is implemented.

3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 527-1:1993	*Plastics - Determination of tensile properties - Part 1: General principles.*
ISO 1302:1992	*Technical drawings - Method of indicating surface texture.*
ISO/IEC 11576:1994	*Information technology - Procedure for the registration of algorithms for the lossless compression of data.*
IEC 60950:1996	*Safety of information technology equipment.*

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