

ISO/IEC 16382:2000-05 (E)

Information technology - Data interchange on 12,7 mm 208-track magnetic tape cartridges - DLT_6 format

Contents

Section 1 - General	1
1 Scope	1
2 Conformance	1
2.1 Magnetic tape cartridges	1
2.2 Generating systems	1
2.3 Receiving systems	1
3 Normative references	1
4 Terms and definitions	1
4.1 Average Signal Amplitude	1
4.2 azimuth	2
4.3 back surface	2
4.4 Beginning-Of-Tape marker (BOT)	2
4.5 block	2
4.6 byte	2
4.7 cartridge	2
4.8 Cyclic Redundancy Check (CRC) character	2
4.9 Early Warning (EW)	2
4.10 Error-Detecting Code (EDC)	2
4.11 End-Of-Tape marker (EOT)	2
4.12 Entity	2
4.13 Error-Correcting Code (ECC)	2
4.14 Envelope	2
4.15 Envelope size	2
4.16 flux transition position	2
4.17 flux transition spacing	2
4.18 Group Record	2
4.19 logical track	2
4.20 magnetic tape	2
4.21 Master Standard Reference Tape	2
4.22 object	2
4.23 page	2
4.24 physical recording density	2
4.25 physical track	2
4.26 Record	2
4.27 Reference Edge	2
4.28 Reference Field	2
4.29 Secondary Standard Reference Tape	2
4.30 Standard Reference Amplitude (SRA)	3
4.31 Standard Reference Current	3
4.32 Test Recording Current	3
4.33 Typical Field	3
5 Conventions and notations	3
5.1 Representation of numbers	3
5.2 Dimensions	3
5.3 Names	3
5.4 Acronyms	3

6	Environment and safety	3
6.1	Cartridge and tape testing environment	4
6.2	Cartridge operating environment	4
6.3	Cartridge storage environment	4
6.4	Safety	4
6.4.1	Safeness	4
6.4.2	Flammability	4
6.5	Transportation	4
Section 2 - Requirements for the unrecorded tape		4
7	Mechanical and electrical requirements	4
7.1	Material	4
7.2	Tape length	4
7.3	Width	4
7.4	Total thickness	5
7.5	Discontinuity	5
7.6	Longitudinal curvature	5
7.6.1	Requirement	5
7.6.2	Procedure	5
7.7	Out-of-Plane distortions	5
7.8	Cupping	5
7.9	Roughness of the coating surfaces	5
7.9.1	Roughness of the back coating surface	5
7.9.2	Roughness of the magnetic coating surface	5
7.10	Coating adhesion	5
7.11	Layer-to-layer adhesion	6
7.11.1	Requirements	6
7.11.2	Procedure	6
7.12	Modulus of elasticity	7
7.12.1	Requirement	7
7.12.2	Procedure	7
7.13	Flexural rigidity	7
7.13.1	Requirement	7
7.13.2	Procedure	7
7.14	Tensile yield force	7
7.14.1	Procedure	8
7.15	Electrical resistance	8
7.15.1	Requirement	8
7.15.2	Procedure	8
7.16	Inhibitor tape	8
7.17	Abrasivity	8
7.17.1	Requirement	8
7.17.2	Procedure	8
7.18	Light transmittance of the tape and the leader	9
7.19	Coefficient of dynamic friction	9
7.19.1	Requirements	9
7.19.2	Procedure for the measurement of the friction between the magnetic surface and the back surface	9
7.19.3	Procedure for the measurement of the friction between the magnetic surface or the back surface and calcium titanate ceramic	10

8	Magnetic recording characteristics	10
8.1	Typical Field	10
8.2	Signal amplitude	11
8.3	Resolution	11
8.4	Overwrite	11
8.4.1	Requirement	11
8.5	Peak shift	11
8.5.1	Requirement	11
8.5.2	Procedure	11
9	Tape quality	12
9.1	Missing pulses	12
9.1.1	Requirement	12
9.2	Missing pulse zone	12
9.2.1	Requirement	12
9.3	Tape durability	12
Section 3 - Mechanical specifications of the tape cartridge		12
10	General	12
10.1	Bottom side and right side	13
10.2	Back side and left side	14
10.3	Tape reel	14
10.4	Tape leader	15
10.5	Front side	16
10.6	Operation of the cartridge	16
10.7	Tape winding	17
10.8	Moment of inertia	17
10.9	Material	18
Section 4 - Requirements for an interchanged tape		27
11	Method of recording	27
11.1	Physical recording density	27
11.2	Channel bit cell length	27
11.2.1	Average Channel bit cell length	27
11.2.2	Long-term average Channel bit cell length	27
11.2.3	Short-term average Channel bit cell length	27
11.3	Flux transition spacing	27
11.4	Read signal amplitude	27
11.5	Azimuth	28
11.6	Channel skew	28
12	Tape format	28
12.1	Reference Edge	28
12.2	Direction of recording	28
12.3	Tape layout	28
12.4	Calibration and Directory Area	28
12.4.1	Scratch Area	29
12.4.2	Guard Area G1	29
12.4.3	Calibration Tracks Area	29
12.4.4	Guard Area G2	30
12.4.5	Directory Area	30
12.4.6	Guard Area G3	30
12.5	Data Area	30
12.5.1	Physical tracks	31
12.5.2	Logical tracks	32

13	Data format	34
13.1	Data Bytes	34
13.2	Data Blocks	34
13.3	Types of Blocks	34
13.4	Entities	34
13.5	Envelopes	34
13.6	Block format	34
13.6.1	Preamble	35
13.6.2	Sync	35
13.6.3	Data Field	35
13.6.4	EDC	36
13.6.5	Control Field 1 (CF1)	37
13.6.6	Control Field 2 (CF2)	38
13.6.7	CRC	39
13.6.8	Postamble	39
14	Use of blocks	39
14.1	Data Blocks	39
14.2	Filler Blocks	39
14.3	End of Track Blocks (EOTR)	39
14.4	End of Data Blocks (EOD)	40
14.5	ECC Blocks	40
15	Format of Entities	40
16	Format of Envelopes	40
17	Error handling	40
Annexes		
A	- Measurement of light transmittance	41
B	- Generation of the Data Block CRCs	44
C	- ECC generation	45
D	- Generation of page CRCs	48
E	- Format of MAP entries	49
F	- Format of Control Field 1	50
G	- Format of Control Field 2	51
H	- Recommendations for transportation	52
J	- Inhibitor tape	53
K	- Recommendations on tape durability	54
L	- Handling guidelines	55