

ISO/IEC 10149:1995-07 (E)

Information technology - Data interchange on read-only 120 mm optical data disks (CD-ROM)

Contents		Page
1	Scope.....	1
2	Conformance	1
3	Normative references.....	1
4	Definitions	1
4.1	Audio Track.....	1
4.2	concentricity	1
4.3	Control byte	1
4.4	Digital Data Track	1
4.5	F ₁ -Frame	1
4.6	F ₂ -Frame	2
4.7	F ₃ -Frame	2
4.8	Information Area.....	2
4.9	Information Track	2
4.10	Physical Track	2
4.11	radial acceleration.....	2
4.12	radial runout.....	2
4.13	Section.....	2
4.14	Sector	2
4.15	User Data Area.....	2
5	Environments.....	2
5.1	Testing environments	2
5.1.1	Optical stylus	2
5.1.2	Clamping	2
5.1.3	Normal testing environment.....	2
5.1.4	Restricted testing environment	3
5.2	Operating environment.....	3
5.3	Storage environment	3
6	Inflammability	3
7	Material	3
8	Mechanical, physical and dimensional characteristics.....	3
8.1	Reference planes.....	4
8.2	Centre hole.....	4
8.3	First transition area	4
8.4	Clamping area.....	5
8.5	Second transition area.....	5
8.6	Information Area.....	5
8.7	Rim area	6
8.8	General remarks	7
9	Mechanical deflection of the entrance surface	7
10	Deflection of the reflective layer	7
11	Physical Track geometry	7
11.1	Physical Track shape.....	7

11.2	Direction of rotation	8
11.3	Physical Track pitch	8
11.4	Scanning velocity	8
11.5	Radial runout of tracks.....	8
12	Optical read system.....	8
12.1	HF Signal	8
12.2	Modulation amplitude.....	8
12.3	Symmetry.....	9
12.4	Gross talk	9
12.5	Quality of the HF signal.....	9
12.5.1	Position jitter of the Channel bits	9
12.5.2	Specification of random errors	9
12.5.3	Specification of burst errors.....	9
12.6	Radial track-following signal.....	9
12.6.1	Magnitude.....	9
12.6.2	Defects	10
13	General aspects of recording	15
13.1	Information Tracks	15
13.2	Bit coding	15
14	Sectors of a Digital Data Track.....	15
14.1	Sync field	16
14.2	Header field	16
14.3	EDC field	17
14.4	Intermediate field	17
14.5	P-Parity field	17
14.6	Q-Parity field.....	17
15	Scrambling	17
16	F ₁ -Frames	17
17	CIRC encoding - F ₂ -Frames	17
18	Control Bytes - F ₃ -Frames and Sections	18
19	Recording of the F ₃ -Frames on the disk.....	18
19.1	8-to-14 Encoding.....	18
19.2	Sync Header	18
19.3	Merging Channel bits	18
19.4	Channel Frame	18
20	Track structure of the Information Area	19
20.1	Lead-in Area	19
20.2	User Data Area	19
20.3	Lead-out Area.....	19
21	Addressing system in the Information Area	19
22	Specification of the Control bytes of Digital Data Tracks	20
22.1	Setting of r-channel to w-channel.....	20
22.2	Setting of the p-channel	21
22.3	Setting of the q-channel.....	21
22.3.1	Control field.....	21
22.3.2	q-Mode field.....	21
22.3.3	q-Mode 1 - q-Data Field in the User Data Area and in the Lead-out Area	22
22.3.4	q-Mode 1 - q-Data field in the Lead-in Area.....	23
22.3.5	q-Mode 2 - q-Data field in the Information Area.....	24
22.3.6	CRC field.....	24

Annexes

A - Error correction encoding by RSPC 25

B - Scrambler 29

C - Error correction encoding by CIRC 30

D - 8-bit to 14-Channel bit conversion..... 36

E - Merging bits..... 38

F - Storage tests 39