
**Information technology — Data
interchange on 130 mm rewritable and
write once read many ultra density
optical (UDO) disk cartridges — Capacity:
30 Gbytes per cartridge (first generation)**

*Technologies de l'information — Échange de données sur cartouches
de disques de 130 mm de diamètre, de densité ultra-optique (UDO),
pour réécriture et pour «write once read many» — Capacité: 30 Go par
cartouche (première génération)*

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. 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 document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 17345 was prepared by Ecma International (as ECMA-350) 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.

Information technology — Data interchange on 130 mm rewritable and write once read many ultra density optical (UDO) disk cartridges — Capacity: 30 Gbytes per cartridge (first generation)

Section 1 — General

1 Scope

This International Standard specifies the mechanical, physical, and optical characteristics of a 130 mm optical disk cartridge (ODC) that employs thermo-optical Phase Change effects to enable data interchange between such disks.

This International Standard specifies two types:

- Type RW (rewritable) provides for data to be written, read and erased many times over the recording surfaces of the disk.
- Type WORM (write once read many) provides for data once written to be read a multiplicity of times. This type uses a write once read many times recording material. (Written marks cannot be erased and attempted modifications of the written marks are detectable.) Multisession (incremental write operations) recording may be performed on type WORM disks.

The disk is two-sided with a nominal capacity of 15,0 GB per side and the cartridge (two sides) provides a nominal capacity of 30,0 GB.

This International Standard specifies:

- the conditions for conformance testing and the Reference Drive;
- the environments in which the cartridges are to be operated and stored;
- the mechanical, physical and dimensional characteristics of the cartridge so as to provide mechanical interchangeability between data processing systems;
- the format of the information on the disk, both embossed and user-written, including the physical disposition of the tracks and sectors, the error correction codes and the modulation methods used;
- the characteristics of the embossed information on the disk;
- the thermo-optical characteristics of the disk, enabling processing systems to write data onto the disk; and
- the minimum quality of user-written data on the disk, enabling data-processing systems to read data from the disk.

This International Standard provides for interchange between optical disk drives. Together with a standard for volume and file structure, it provides for full data interchange between data processing systems.

2 Conformance

2.1 Optical disk

An ODC shall be in conformance with this International Standard if it meets all mandatory requirements specified therein.

A claim of conformance with this International Standard shall specify the type (RW or WORM) implemented.

2.2 Generating system

A claim of conformance with this International Standard shall specify which type(s) is (are) supported. A system generating an ODC for interchange shall be in conformance with this International Standard if it meets the mandatory requirements of this International Standard for the type(s) supported.

2.3 Receiving system

A claim of conformance with this International Standard shall specify which type(s) is (are) supported.

A system receiving an ODC for interchange shall be in conformance with this International Standard if it is able to process any recording made on the cartridge according to 2.1 on the type(s) specified.

2.4 Compatibility statement

A claim of conformance with this International Standard shall include a statement listing any other Optical Disk Cartridge Standard supported by the system for which conformance is claimed. This statement shall specify the number of the Standard(s), including, where appropriate, the ODC type(s), and whether support includes reading only or both reading and writing.

3 Normative references

The following referenced document is indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ECMA-287 (2002), *Safety of electronic equipment*

4 Terms and definitions

For the purposes of this document the following terms and definitions apply.

- 4.1 asymmetry**
the deviation between the centre levels of signals generated by two distinct repeating mark and space length patterns
- 4.2 band**
an annular area on the disk having a constant clock frequency
- 4.3 case**
the housing for an optical disk that protects the disk and facilitates disk interchange
- 4.4 Case Reference Plane**
a plane defined for each side of the case, to which the dimensions of the case are referred