Standard ECMA-195

Data Interchange on 130 mm Optical Disk Cartridges - Capacity: 2 Gigabytes per Cartridge

2nd edition (June 1995)

This ECMA Standard specifies the characteristics of a series of related 130 mm optical disk cartridges (ODCs) by using a number of Type designations. The two sides of the disk, called Side A and Side B, with each a nominal storage capacity of 1 Gigabyte are given specific Type designations. Thus, Side A and Side B may be different types.

- Types **R/W, R/W-R** provide for data to be written, read and erased many times over the whole of both recording surfaces of the corresponding disk side, using the thermo-magnetic and magneto-optical effects.
- Types **P-ROM, P-ROM-R** provide for part of both disk surfaces to be pre-recorded and reproduced by stamping or other means. This part of the disk is read without recourse to the magnetico-optical effect. All parts which are not pre-recorded provide for data to meet the requirements of Types R/W and R/W-R, respectively.
- Types **O-ROM, O-ROM-R** provide for the whole of both disk surfaces to be pre-recorded and reproduced by stamping or other means. The disk sides are read without recourse to the magneto-optical effects.

- Types **WO, WO-R**provide write-once, read-multiple functionality using the thermo-magnetic and the magneto-optical effects.
- Type **B** indicates that the cartridge side shall not be used. This Type designation may be used for Side B only.

The suffix - R, which may be used for Side B only, indicates that the tracks of Side B spiral in the opposite direction to those on Side A. Such ODCs facilitate simultaneous access to both sides of the disk by a dual optical system.

The 20 combinations of Types allowed by this ECMA Standard for the two sides of disks are specified in this Standard.

In addition, for each Type, this ECMA Standard provides for 512-byte and 1 024-byte sector sizes. All sectors of an ODC are the same size.

This ECMA 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, the modulation methods used;
- the characteristics of the embossed information on the disk;

- the magneto-optical characteristics of the disk, enabling processing systems to write data onto the disk;
- the minimum quality of user-written data on the disk, enabling data processing systems to read data from the disk.

This ECMA 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.

The following files are provided in this set of CD-ROMs:

File name	Size (Bytes)	Content
ECMA-195.PDF	1'540'623	Acrobat PDF file
ECMA-195.PSC	4'791'168	Corresponding PostScript file

Printed copies of this Standard can be ordered, free of charge, from documents@ecma.ch..
