

## Standard ECMA-239

### Data Interchange on 90 mm Optical Disk Cartridges - HS-1 Format - Capacity: 650 Megabytes per Cartridge

(June 1996)

This ECMA Standard specifies the characteristics of 90 mm Optical Disk Cartridges (ODC) with a capacity of 650 Mbytes per Cartridge. The Standard specifies three related, but different implementations of such cartridges, viz.

#### **Type R/W**

Provides for data to be written and read many times over the recording surface of the disk using the thermo-magnetic and magneto-optical effects.

#### **Type P-ROM**

Provides for a part of the recording surface of the disk to be embossed by stamping or other means. This part of the disk is read without recourse to the magneto-optical effect. The part which is not embossed provides for data to meet the requirements of Type R/W.

#### **Type O-ROM**

Provides for the recording surface of the disk to be embossed and reproduced by stamping or other means. This type of disk is read without recourse to the magneto-optical effect.

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Type R/W, Type P-ROM and Type O-ROM are also referred to as "fully rewritable", "partially embossed" and "fully embossed", respectively.

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 and physical characteristics of the cartridge, so as to provide mechanical interchangeability between data processing systems;
- the format of the information on the disk, called HS-1 (HS stands for "Hyper-Storage"), including the physical disposition of the tracks and sectors, the error correction codes, and the recording method 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.

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

File name	Size (Bytes)	Content
<b>ECMA-239.PDF</b>	2'093'230	Acrobat PDF file
<b>ECMA-239.PSC</b>	5'580'748	Corresponding PostScript file

Printed copies of this Standard can be ordered, free of charge, from [document@ecma.ch](mailto:document@ecma.ch) .

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