

Title (en)

OPTICAL STORAGE MEDIUM AND OPTICAL DEVICE FOR WRITING, DELETION AND READING OF DATA

Title (de)

OPTISCHES SPEICHERMEDIUM UND OPTISCHE EINRICHTUNG ZUM SCHREIBEN, LÖSCHEN UND LESEN VON DATEN

Title (fr)

SUPPORT D'ENREGISTREMENT OPTIQUE, ET DISPOSITIF OPTIQUE PERMETTANT L'ECRITURE, LA SUPPRESSION ET LA LECTURE DE DONNEES

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2006136118A2] The invention concerns an optical storage medium and a device for writing, deletion and reading of the optical storage medium data. The optical storage medium consists of a multi-layer structure of alternating polymeric layers doped with a photochromic substance and layers undoped with the photochromic substance. The undoped layer serves as a waveguide, while writing and deletion of data is realized by managed changes of the refraction coefficient in local areas by the effect of radiating a suitable wavelength in the doped layers. Reading of data is realized by introducing the radiation of the reading wavelength into the waveguide layer of the optical storage medium without the photochromic medium and by detection of luminescence changes at places with a changed refraction coefficient in the optical storage medium layer with the photochromic material. The device for writing, deletion and reading of the optical storage medium data consists of a source of radiation of three wavelengths, an optical system for the transmission of radiation, an optical three-channel system for an independent radiation modulation, an optical system for radiation focusing for writing and deletion with a perpendicular and vertical movement towards the optical storage medium layers and of an optical system for the sideways illumination of the optical storage medium layers without the photochromic substance enabling the movement on a plane perpendicular to the optical storage medium layers without the photochromic material. The devices according to this invention may be used in all areas of computing technologies requiring storage of large amounts of data with the possibility to carry out their corrections. The devices may also be used for recording, storing and replaying of video and audio files.

IPC 8 full level

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