

Abstract

5 The invention relates to three-dimensional optical memory devices and can be used in all areas of computing in which it is necessary to record large data files on compact carriers. The device comprises an optical disc positioning system, two sources of radiation with the wavelengths λ_1 and λ_2 , a
10 focusing system, an illumination system, focusing system positioning means, a spectrum splitter, an optical sensor, and a control unit. The source of radiation with the wavelength λ_2 is in the form of a strip of laser diodes, the optical axes of which are parallel and lie in the same plane, and the
15 illumination system comprises the following components arranged in series along the optical axis: a cylindrical lens positioned so that the generatrix of its cylindrical surface is parallel to the plane in which the p-n junctions of the laser diodes are situated; a focusing lens; and a stabilizing
20 circuit comprising a beam splitter that is situated between the focusing lens and the cylindrical lens, a second optical sensor that is optically coupled to the focusing lens via the beam splitter, and a stabilizer that is coupled to the focusing lens, wherein the stabilizer and the second optical
25 sensor are electrically connected to the control unit.