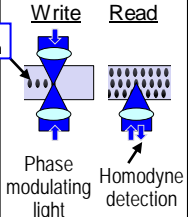
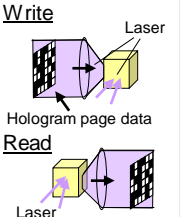
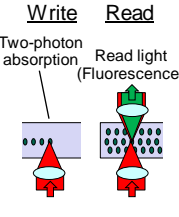
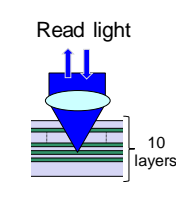


Hitachi, Ltd., web site 【 25th May 2010 News Release】 <http://www.hitachi.com/New/cnews/100525b.html>

Development of high-speed read & large capacity technology for optical discs used in video and music archives

Comparison of 'phase multi-level micro-hologram method' with other next-generation methods being proposed

Method	Phase multi-level micro-hologram	Hologram	Two-photon absorption	Multi-layer
Data capacity	5TB	2TB	1TB	330GB
Data transfer rate	2Gbps	1Gbps	100Mbps	430Mbps (in principle)
Principle	 <p>Write Read Micro hologram Phase modulating light Homodyne detection</p>	 <p>Write Read Laser Hologram page data Laser</p>	 <p>Write Read Two-photon absorption Read light (Fluorescence)</p>	 <p>Read light 10 layers</p>
Characteristics	Both the surface recording density & the number of recording layers can be increased	Capacity increase achieved by increasing the number of page data	Capacity increase achieved by increasing the number of recording layers	Capacity increase achieved by increasing the number of recording layers

*Figures given are targets for Hitachi technology, and estimated values for others

Larger-capacity and higher-data transfer rates are major issues in optical discs today. To address these issues, Hitachi developed the 'phase multi-level micro-hologram method' which can provide not only large-capacity storage but also higher data transfer rates.

Result

Verification of the basic principle for multi-level data read technology.

Features

1. Compatibility with the current optical discs.
2. Multi-level recording of optical phase information based on micro-hologram method

Conference presentation

These results was presented at the Optical Data Storage Topical Meeting 2010, held from 23rd to 26th May 2010 in Boulder, Colorado, U.S.A.

A word from the development team

We will conduct further verification tests including work on data recording technology, with view to practical application in products.