

HAMR-Based HD Media From SDK

Written by Alice Marshall
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Japan's Showa Denko (SDK) develops the technology for the manufacturing of next-generation HDDs based on Heat Assisted Magnetic Recording (HAMR), enabling the eventual creation of 3.5-inch HDDs with capacities reaching 70-80TB.



As the name suggests, HAMR is a recording method involving the heating of a magnetic film in order to record data. To do so, the SDK technology uses small grains of magnetic crystals with thermal stability and information writability. Also involved are aluminium platters and a thin films of Fe-Pt alloy, a magnetic material both powerful and with high corrosion resistance.

In addition, SDK has developed a new magnetic layer structure and ways to control temperature during HD media creation. The result is a product higher magnetic coercivity (or the ability of the ferromagnetic material to withstand an external magnetic field without becoming demagnetised), very small crystal grain size and optimised grain size distribution control.

SDK does not detail the recording density of the new platters. Instead, it points out current conventional magnetic recording (CMR) platters feature recording density of around 1.14

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Tb/square inch. In comparison, the HAMR-based media promise areal density of 5-6 TB/square inch, leading to 3.5-inch HDDs with capacities reaching all the way to 70-80TB.

That said, the Japanese company is still to announce when it will start producing next-generation HDDs featuring the technology.

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