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Toshiba to Make 80GB iPod-Ready Hard Drive

Toshiba Corporation today announced the world's first hard disk drive (HDD) based on perpendicular recording, a breakthrough technology that sets new benchmarks for data density, boosting the capacity of a single 1.8-inch hard-disk platter to 40 gigabytes. Toshiba has brought the new technology to two high capacity drives: the MK4007GAL HDD packs 40GB into a drive only five millimeters thick, while the MK8007GAH achieves a capacity of 80GB--the largest capacity*1 yet achieved in the 1.8-inch form factor. Toshiba plans to start mass production of the 40GB and 80GB drives in the first and second quarters, respectively, of the fiscal year starting April 1, 2005.

Toshiba is the first company in the storage device industry to commercialize perpendicular magnetic recording, and the company has applied the technology to HDD that achieve unsurpassed recording density and high operating reliability. This success rests on development of a new magnetic disk structured to support perpendicular recording, a new high performance perpendicular magnetic head, and disk and head integration technology that maximizes their combined performance.

"It is my great pleasure to announce our achievement of introducing the new HDDs made possible by our breakthrough in perpendicular recording technology," said Kazuyoshi Yamamori, Vice President of Storage Device Division at Toshiba Corporation's Digital Media Network Company, "Our research confirmed the superior potential of perpendicular recording technology, and we have now achieved the core head and disk technologies required for reliable, high-density recording. The performance of our new HDDs, and our success in bringing this important technology to market ahead of the industry, allows Toshiba to promote continued product differentiation and to further expand our business in small form factor HDDs."

Conventional longitudinal recording stores data on a magnetic disk as microscopic magnet bits aligned in plane. Although advances in magnetic coatings continue to improve data recording densities on HDD, the magnetic bits repulse each other due to in-plane alignment. Squeezing more bits on to a disk will eventually reach a point where crowding degrades recorded bit quality. This places fast-approaching limits on storage capacities. By standing the magnetic bits on end, perpendicular recording reinforces magnetic coupling between neighboring bits, achieving stable higher recording densities and improved storage capacity.

Toshiba's new HDDs achieve the highest areal density yet reported, 206 megabits per square millimeter*3 (133 gigabits per square inch). The 40GB platter capacity is 33%*4 more than that of Toshiba's conventional HDD.

Toshiba will also apply the new technology to the 0.85-inch HDD that it announced in January this year, a move that will push capacity to 6 to 8GB per platter and support Toshiba in pioneering the market for ultra-small form factor drives.