

# Toshiba makes a breakthrough in hard-drive capacity

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Future Toshiba drives could hold five times as much data using bit-patterned media technology.

(PhysOrg.com) -- Last Wednesday Toshiba made an announcement at the Magnetic Recording Conference in San Diego that they have made a breakthrough in their research of bit-patterned media that would result in enormous storage improvements for future hard drives.

Toshiba is currently developing a bit-patterned media that makes a smaller collection of grains that is used to record the magnetic charge for each bit. [Toshiba](#) has currently achieved an [areal density](#) of 2.5Tbit per square inch by using magnetic dots 17nm in size. This is equivalent to about 300GB stored in an area approximately the size of a postage stamp

which is about five times of what is available today on high-capacity drives which store about 541Gb per square inch.

Currently Toshiba has only been able to detect the tracks on the prototype media and still needs to develop the technology for reading and writing to the tracks. If Toshiba succeeds in the bit-patterned media technology, they will have a head-start in producing ultra-high-capacity storage drives for those who need terabytes of data.

Research and creation of a prototype bit-patterned media has already been done by other manufactures before but Toshiba's work represents the first time a prototype device has been created with the magnetic spheres aligned in a specific pattern. This alignment was missing from previous prototypes making it impossible to find where particular data is stored.

Toshiba's work is far from completion but the company claims that the first products using this technology won't be available until at least 2013. Toshiba claims to be a lot closer than others in their [prototypes](#) in gathering usable signals from data stored on the magnetic spheres through a specially constructed read/write head.

**More information:** Via: [Bit-Tech](#) & [eetimes](#)

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