

Web-Feet Research, Inc.

Quarter 2, 2008

By Walker Blount

Inside This Issue

• Flash Storage

- Samsung Launches 256GB MLC SSD
- TDK Introduces SATA Industrial SSD
- Super Talent Launches MLC SATA-II SSDs for Notebooks
- STEC Announces its MACH4 1-inch SSD

• HDD Mobile Storage

- Samsung Launches the Highest Capacity 2.5-inch 7200 RPM Mobile Hard Drive at 500GB
- HDD Suppliers Offering High Capacity 2.5-inch 7200 RPM Mobile Hard Drives
- Toshiba Increases Capacity of 1.8-inch SATA HDD to 160GB

• Industry Developments

- Intel and Micron Create 34nm 32Gb MLC

Introduction to Second Quarter 2008 Issue

This publication is part of an expanded service from Web-Feet Research focused on Mobility Storage. This storage service addresses the storage needs in the mobile marketplace by identifying the market requirements and assessing the entire complement of storage technologies that compete for this market. Currently, there are two storage technologies that can fulfill the mobile and portable storage requirements that are in use today; Flash storage, and Hard Disk Drive storage. Other storage technologies, such as the micro-mechanical probe are on the horizon. With this in mind, "Industry News Briefs" serves as a market watch of the latest industry developments as it relates to small form factor storage devices in mobile and portable platforms. This includes the latest product announcements of storage devices of flash and hard disk drive storage, new storage technologies, and new applications utilizing these storage technologies. As there are many industry developments every month, this publication highlights some of the most notable.

Highlights of this Quarter's Issue

Flash Storage

Samsung Launches 256GB MLC SSD

Samsung launches a new generation SSD for notebook PCs. It doubles the capacity with improved performance over its predecessor at 128GB which started shipping the first half of this year. Samsung's new MLC SSD will start sampling in September 2008. The form factor is 2.5-inch with a Z-height of 9.5mm which conforms to the standard HDD form factor for notebook PCs. The sequential read speed is 200MB/s and sequential write speed is 160MB/s, making it the fastest MLC SSD to date. According to Samsung, mean time between failures (MTBF) is one million hours and power consumption is 0.9 watts in "active mode".

TDK Introduces SATA Industrial SSD

TDK launches an SSD that is designed for industrial use. It has a SATA interface and utilizes SLC technology. The form factor is 2.5 inches and the capacity is 16GB. Unlike PC applications, large capacities for industrial use are not required and are typically 16GB and below. TDK's product targets this sweet spot providing the endurance and performance that are required for this type of application through SLC technology. TDK introduced its first SSD in October 2006 at 32GB being one of the newest SSD suppliers.

Contact Us:

<http://www.Web-Feetresearch.com>

Alan.Niebel@Web-Feetresearch.com
831.373.1985

Walker.Blount@Web-Feetresearch.com
408.846.5201

Gregory.Wong@Web-Feetresearch.com
416.229.9539

[J. Alan Fagan@Web-Feetresearch.com](mailto:J.Alan.Fagan@Web-Feetresearch.com)
831.440.8503

Super Talent Launches MLC SATA-II SSDs for Notebooks

Super Talent extends its SSD product line to include MLC SSDs for notebook applications. Super Talent announced earlier this year its highest capacity SLC SSD at 256GB, still meeting the 2.5 inch form factor with a Z- height of 9.5mm. The latest MLC SSD product capacities are 30/60/120GB. Maximum sequential read/write speeds are 120 and 40 MB/s respectively.

STEC Announces its MACH4 1-inch SSD

STEC announces its MACH4 1-inch SSD. This one of the industry's smallest SSD that is designed for personal computing and consumer electronics applications. According to STEC, the new MACH4 platform enables system designers to reduce the footprint and power requirements of designs, providing design flexibility and enabling new product categories.

HDD Mobile Storage**Samsung Launches the Highest Capacity 2.5-inch 7200 RPM Mobile Hard Drive at 500GB**

Samsung has introduced the highest capacity 7200 RPM mobile drive at 500GB. Hitachi, Seagate, Fujitsu and Western Digital recently launched 320GB, 7200 RPM drives. Samsung is able to reach this capacity by adding a third platter within the 9.5mm Z-height. The competition is currently limited to 2 platters putting them at a disadvantage for highest capacity. Samsung's product is called Spinpoint MP2. Their previous generation 7200 RPM mobile drive was 250GB. The interface is SATA II 3.0Gbps and features Samsung's SilentSeek and NoiseGuard technologies for quiet operation.

HDD Suppliers Offering High Capacity 2.5-inch 7200 RPM Mobile Hard Drives

Three suppliers have recently introduced high capacity high performance mobile hard disk drives. Hitachi, Seagate and Western Digital have launched these drives at 320GB with a spindle speed of 7200 RPM.

Toshiba Increases Capacity of 1.8-inch SATA HDD to 160GB

Toshiba was the first HDD supplier to launch a 1.8 inch drive with a spindle speed of 5400 RPM in February 2008. They were also the first to launch a 1.8 inch drive with a SATA interface using a Micro-SATA connector. The first generation capacities were 80GB and 120GB. They have now increased the capacity to 160GB. The 160GB model has 2 platters and 4 heads; the 80GB has a single platter and 2 heads. The capacity increase comes from an areal density increase; from 182.2Gbit/sq in to 246.8Gbit/sq in.

Industry Developments

Intel and Micron Create 34nm 32Gb MLC Chip

Intel and Micron Technology have created the industry's first sub-40nm NAND flash memory device. The 34nm 32Gb multi-level chip is the smallest NAND process geometry on the market. It was developed by the companies' IM Flash Technologies joint venture. Intel and Micron stated that the chip is the only monolithic device at this density that fits into a standard 48-lead thin small-outline package. This will provide a cost-effective path to higher densities in existing applications. Shipments of customer samples will begin in June, and mass production is expected during the second half of this year.

© 2008 Copyright Web-Feet Research reserves all rights herein. Reproduction, disclosure, donation and resale in whole or in part to parties other than the Web-Feet Research client who is the original subscriber to this report is permitted only with the written permission of Web-Feet Research. This report should be treated at all times as a confidential and proprietary document to be used internally only by the subscribing company.

In conformity with existing legislation, Web-Feet Research should not be liable in any event for special, incidental and consequential damages whatsoever – including but not limited to loss of business, loss of profits, loss of business information, business interruption – arising from the use of or from the inability to use this report. In any case, the Web-Feet Research total liability under the provisions of this agreement shall not exceed the amount paid for this report.