



## Toshiba Launches Next-Generation Solid State Hybrid Drives

*Thinner, lighter, faster drives for ultrathin notebooks and slim line PCs*

**Düsseldorf, Germany, 20<sup>th</sup> June, 2013** - Toshiba Electronics Europe (TEE) has launched its next-generation solid state hybrid drives (SSHD) that combine SSD-like performance with large HDD capacities. The new drives squeeze 8GiB<sup>1</sup> of NAND storage and up to 500GB<sup>2</sup> of HDD storage into a svelte 2.5-inch (6.4 cm) form factor with 7.0mm height, ideal for high-performance and ultrathin notebooks, and slim line PCs.

Both the MQ01ABF050H (500GB) and MQ01ABF032H (320GB) are thinner and lighter than previous models. The SSHDs achieve overall PC Mark Vantage scores of about 20,000 – making them ideal for users who don't want to compromise on performance or capacity.

<sup>1</sup> One Gibibyte (GiB) = 1,073,741,824 (230) byte.

<sup>2</sup> One Gigabyte (1GB) means  $10^9 = 1,000,000,000$  bytes. One Terabyte (1TB) means  $10^{12} = 1,000,000,000,000$  bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of  $1GB = 2^{30} = 1,073,741,824$  bytes and  $1TB = 2^{40} = 1,099,511,627,776$  bytes, and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and other factors.

Media transfer rates reach 1288Mbit/s while noise levels stay exceptionally low – maximum seek noise is just 21dB. In addition, the combination of the SATA 3.0 interface and small form-factor ensure compatibility with most PCs and laptops.

An updated self-learning algorithm saves regularly accessed files to the SLC NAND chip to ensure faster data retrieval. Likewise, data that is used less regularly is moved from the NAND chip to the HDD for long-term storage. This algorithm enables the hybrid drive to improve PC boot speeds compared to standard HDDs and enhance speed and component reliability in digital video recording applications. In addition, the self-learning mechanism continues to develop throughout the lifespan of the drive, constantly improving its performance.

“The launch of Toshiba’s new solid state hybrid drives will enable laptop and ultrabook users access to high speed, high capacity storage. By combining fast NAND flash technology with HDD storage space, consumers can now enjoy the best of both worlds,” said Martin Larsson, vice president, Toshiba Electronics Europe. “Toshiba’s years of experience and innovation in the storage industry means it’s in a unique position to capitalize on these benefits. The new hybrid model is one of the top innovative technologies for Toshiba and its transformative nature heralds a new type of storage for the consumer.”

For more information please visit our Toshiba storage website at [www.storage.toshiba.eu](http://www.storage.toshiba.eu).

Solid state hybrid drive specifications

<b>Model Number</b>	MQ01ABF050H / MQ01ABF032H
<b>Maximum Capacity (Formatted) <sup>*1</sup></b>	500 / 320 GB
<b>Number of platters</b>	1
<b>Areal density (max)</b>	1.15Gbit/mm <sup>2</sup> {744Gbit/in <sup>2</sup> } / 746 Mbit/mm <sup>2</sup> {482Gbit/in <sup>2</sup> }
<b>Media transfer rate (max)</b>	1,288Mbit/s
<b>Average seek time</b>	12 ms
<b>Rotational speed</b>	5,400 rpm
<b>Buffer memory <sup>*2</sup></b>	32 MiB
<b>NAND Flash Size <sup>*3</sup></b>	8 GiB
<b>Interface</b>	Serial ATA 3.0 (ATA-8)
<b>Interface transfer rate</b>	1.5 / 3.0 / 6.0 Gbit/s
<b>External dimensions (WxDxH; mm)</b>	69.85 mm x 100.0 mm x 7.0 mm {2.75 inch x 3.94 inch x 0.28 inch}
<b>Weight (g)</b>	90 g (typ), 92 g (max)
<b>Shock resistance:</b>	
<b>Operating</b>	3,920m/s <sup>2</sup> {400G} 2ms
<b>Non-operating</b>	8,820m/s <sup>2</sup> {900G} 1ms
<b>Acoustics:</b>	
<b>Idle (spindle in rotating)</b>	19 dB (ave.)
<b>Seek</b>	21 dB (ave.)

\*1 One gigabyte (GB) = 1,000,000,000 (10<sup>9</sup>) byte.

\*2 One mebibyte (MiB) = 1,048,576 (2<sup>20</sup>) byte.

\*3 One gibibyte (GiB) = 1,073,741,824 (2<sup>30</sup>) byte.

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## About Toshiba Electronics Europe

Toshiba Electronics Europe (TEE) is the European electronic components business of Toshiba Corporation, which is ranked among the world's largest semiconductor vendors. TEE offers one of the industry's broadest IC and discrete product lines including high-end memory, microcontrollers, ASICs and ASSPs for automotive, multimedia, industrial, telecoms and networking applications. The company also has a wide range of power semiconductor solutions as well as storage products like HDDs, SSDs, SD Cards and USB sticks.

TEE was formed in 1973 in Neuss, Germany, providing design, manufacturing, marketing and sales and now has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom. TEE employs approximately 300 people in Europe. Company president is Mr. Takashi Nagasawa.

For more company information visit TEE's web site at [www.toshiba-components.com](http://www.toshiba-components.com)

## About Toshiba

Toshiba Corporation is a world-leading diversified manufacturer, solutions provider and marketer of advanced electronic and electrical products and systems. Toshiba Group brings innovation and imagination to a wide range of businesses: digital products, including LCD TVs, notebook PCs, retail solutions and MFPs; electronic devices, including semiconductors, storage products and materials; industrial and social infrastructure systems, including power generation systems, smart community solutions, medical systems and escalators & elevators; and home appliances. Toshiba was founded in 1875, and today operates a global network of more than 550 consolidated companies, with 202,000 employees worldwide and annual sales surpassing US\$74 billion.

Visit Toshiba's web site at [www.toshiba.co.jp/index.htm](http://www.toshiba.co.jp/index.htm)

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