



**Media Inquiries:**

Rachel Austin  
Waggener Edstrom Worldwide  
(512) 527-7018  
[raustin@waggeneredstrom.com](mailto:raustin@waggeneredstrom.com)

**TOSHIBA ANNOUNCES 5TB SURVEILLANCE HARD DISK DRIVE**

*The MD04ABA-V Series is Toshiba's first 5TB high capacity, power efficient surveillance-class HDD*

**IRVINE, Calif. — August 5, 2014** — The Storage Products Business Unit of Toshiba America Electronic Components, Inc., a committed technology leader, announces the MD04ABA-V Series, delivering the company's first 5TB<sup>1</sup> 3.5-inch, low RPM hard disk drive (HDD) specifically for surveillance applications. The MD04ABA-V series is designed for use in surveillance digital video recorders (SDVR), surveillance network video recorders (SNVR) and hybrid SDVR.

The MD04ABA-V Series is designed for surveillance applications with support for up to 32 high definition cameras<sup>2</sup>. The Series supports 24/7 operation, and also incorporates rotational vibration (RV) sensors, making it suitable for use in RAID/multi-HDD based surveillance platforms. With the massive 5TB capacity point, customers now have the flexibility to retain higher resolution surveillance video data for longer periods using fewer HDDs, helping to maintain a smaller storage footprint and lower energy costs.

"The latest generation surveillance cameras produce higher resolution video streams that increase storage capacity requirements. Toshiba's MD04ABA-V Series Surveillance HDDs deliver greater capacity, quieter operation and more power efficient operation vs. competing higher RPM HDD models," said Scott Wright, product marketing manager at Toshiba Storage Products Business Unit.

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<sup>1</sup> One Terabyte (1TB) = 1,000 Gigabytes (GB). One Gigabyte (1GB) means  $10^9 = 1,000,000,000$  bytes using powers of 10. 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 therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, pre-installed software applications, or media content. Actual formatted capacity may vary.

<sup>2</sup> Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras as 2MiB/s rate.

The MD04ABA-V Series sample will begin shipping in August 2014. For more information on Toshiba's line of industry-leading SSDs, HDDs and SSHDs, visit [www.toshibastorage.com](http://www.toshibastorage.com). To connect with Toshiba Storage, visit the corporate blog at <http://storage.toshiba.com/corporateblog/> and follow [@ToshibaStorage](https://twitter.com/ToshibaStorage) on Twitter.

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Specifications:

MODELS	MD04ABA500V	MD04ABA400V
<b>Basic specification</b>		
Interface	SATA-2.6/3.0	
Interface speed*	1.5Gbit/s, 3.0Gbit/s, 6.0Gbit/s	
Formatted capacity	5TB	4TB
Logical data block length (Host)	512 B/sector	
Logical data block length (Disk)	4,096 B/sector	
<b>Performance</b>		
Buffer size	128MiB FIFO ring buffer	
Rotation speed*	Low Spin	
Average latency time	5.56 ms	
<b>Reliability</b>		
Error rate non-recoverable	1/10 <sup>14</sup> bits read	
<b>Supply Voltage</b>		
Allowable Voltage	+5V ±5% , +12V ±10%	
<b>Power consumption</b>		
Read/Write	6.5 W	
Low power idle	3.5 W	
<b>Dimension</b>		
Height	26.1 mm	
Width	101.6 mm	
Length	147 mm	
Weight	720 g (Max)	
<b>Temperature</b>		
Operating	0 to 70°C (Top Cover)	
Non-operating	-40 to 70°C	
<b>Humidity</b>		
Operating	5 to 90% R.H. (No condensation)	
Non-operating	5 to 90% R.H. (No condensation)	
<b>Atmospheric Pressure</b>		
Altitude (Operating)	-305 to 3,048m	

Altitude (Non-operating)	-305 to 12,192m
<b>Vibration/Shock</b>	
Vibration (Operating)	7.35m/s <sup>2</sup> {0.75G} (5~300Hz, linear) or less 2.45m/s <sup>2</sup> {0.25G} (300~500Hz, linear) or less
Vibration (Non-operating)	49 m/s <sup>2</sup> {5G} (5~500Hz) or less
Shock (Operating)	686 m/s <sup>2</sup> {70G} (2ms duration)
Shock (Non-operating)	2,940 m/s <sup>2</sup> {300G} (2ms duration)
<b>Acoustics</b> (Sound power)	
Ready	26dB (Typ.)

\* Read and write speed may vary depending on the host device, read and write conditions, and file size.

### About Toshiba Storage Products

Toshiba Corporation and its affiliates offer one-of-a-kind global storage solutions, offering hard disk drives (HDDs), solid state drives (SSDs) and NAND flash memories — technologies that drive a wide range of consumer electronics, computer and automotive applications, as well as enterprise solutions for the global marketplace. Toshiba is a leader in the development, design and manufacture of mobile, consumer and enterprise hard disk drives and solid state drives. In North America, the Storage Products Business Unit of Toshiba America Electronic Components, Inc., markets high-quality storage peripherals to original equipment manufacturers, original design manufacturers, value-added resellers, value-added dealers, systems integrators and distributors worldwide. Inherent in the Toshiba storage family are the high-quality engineering and manufacturing capabilities that have established Toshiba products as innovation leaders worldwide. For more information, visit [www.toshibastorage.com](http://www.toshibastorage.com).

### About TAEC

Through proven commitment, lasting relationships and advanced, reliable electronic components, Toshiba enables its customers to create market-leading designs. Toshiba is the heartbeat within product breakthroughs from OEMs, ODMs, CMs, VARs, distributors and fabless chip companies worldwide. A committed electronic components leader, Toshiba designs and manufactures high-quality flash memory-based storage solutions, solid state drives (SSDs), hard disk drives (HDDs), solid state hybrid drives (SSHDS), discrete devices, custom SoCs/ASICs, imaging products, microcontrollers, wireless components, mobile peripheral devices, advanced materials and medical tubes that make possible today's leading smartphones, tablets, cameras, medical devices, automotive electronics, industrial applications, enterprise solutions and more.

[Toshiba America Electronic Components, Inc.](http://www.toshiba.com) is an independent operating company owned by Toshiba America, Inc., a subsidiary of Toshiba Corporation, Japan's largest semiconductor manufacturer and the world's sixth largest semiconductor manufacturer (Gartner, 2013 Worldwide Semiconductor Revenue, April 2014). Founded in Tokyo in 1875, Toshiba is at the heart of a global network of over 590 consolidated companies employing over 200,000 people worldwide. Visit Toshiba's web site at [www.toshiba.co.jp/index.htm](http://www.toshiba.co.jp/index.htm).