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TOSHIBA INTRODUCES HIGHEST-CAPACITY AUTOMOTIVE-GRADE HDD TO SUPPORT DEMAND FOR ADVANCED IN-VEHICLE STORAGE

200GB Small Form Factor HDD Sets a New Industry Standard, Targeting the Increasing Capacity Needs of In-Vehicle and Industrial Applications

IRVINE, Calif., April 14, 2010 – Toshiba Storage Device Division (SDD), the pioneer in small form factor hard disk drives (HDDs), today strengthened its position as the world's leading manufacturer of automotive-grade HDDs by introducing a new HDD with 200 gigabytes¹ (GB) of storage capacity in a single-platter design.

The 4,200 RPM SATA **MK2060GSC** is the highest-capacity automotive-grade HDD available and provides vehicle systems manufacturers with the high-capacity storage needed to improve telematics, navigation and entertainment systems, particularly as these systems are being designed to communicate with information and content sources outside the car. This high-capacity automotive storage line will enable carmakers and aftermarket vendors to deliver an improved in-vehicle user experience, while enhancing driver safety.

This introduction builds on Toshiba's existing automotive product line. As of March 2010, Toshiba has shipped 14 million automotive-grade HDDs to the worldwide market, and had 75 percent global market share² for shipments in 2009, according to the company's internal sales data. In addition, IDC has forecast that more classes of automobiles will increasingly offer factory in-dashboard infotainment systems that provide audio, video and a variety of navigation information to passengers beginning in model year 2012³. Consumer desire for multimedia applications and navigation systems integrated into cars has fueled demand for high-

capacity HDDs, ensuring migration of these applications beyond the premium vehicle market and into the mainstream.

The MK2060GSC targets telematics and infotainment applications, in which proven performance and capacity are critical. This product line represents a significant innovation in commercial automotive-grade HDD technology, as it doubles the maximum storage capacity available. Other technical benefits to systems manufacturers include a 78 percent improvement in internal transfer rates compared to equivalent products on the market, as well as a faster seek time of 12 milliseconds and extremely quiet "silent seek" operation of 23dB. These features make the MK2060GSC ideal for multimedia, navigation and in-vehicle video recording applications, which require a combination of high storage capacities and rapid data recall.

In addition to its high capacity, the MK2060GSC offers exceptional reliability. This HDD can withstand altitude variations of -300 to 12,000 meters during non-operating and -300 to 5,650 meters while operating, as well as operating temperatures of -30 to +85°C. The new HDD also delivers high levels of operating shock resistance and enhanced vibration resistance. Consequently, telematics systems manufacturers deploying this product in high-quality cars can be confident their products will function normally, despite extreme environmental conditions.

"The next generation of automobile infotainment, connectivity and location-awareness applications will require more innovation and undoubtedly higher storage capacity," said Scott Wright, product manager for Toshiba Storage Device Division. "Our commitment to sustain continued advancement in this product category continues to position Toshiba as the leader for storage components. We are ideally positioned to provide vehicle systems manufacturers with the high-quality, reliable storage technology they need to capitalize on an evolving market opportunity."

In addition to the MK2060GSC, Toshiba also debuts the MK1060GSC as part of this automotive-grade product series, offering 100GB of storage capacity. All of Toshiba's automotive-grade HDDs are suitable for use in many industrial applications requiring extended temperature tolerance. Continuing Toshiba's commitment to reducing environmental impact, these HDDs are fully compliant with RoHS regulation and are halogen-free.

Information and Availability

Toshiba's MKxxGSC series will be commercially available in the third quarter of 2010 for industrial distribution and OEMs. These HDDs are currently being sampled to selected partners for qualification. For more information on Toshiba's line of industry-leading small form factor hard drives, visit www.toshibastorage.com.

Product Specifications:

Model Number		MK2060GSC / MK1060GSC
Capacity (Formatted)		200GB ¹ / 100GB
Number of platters		1
Average seek time		12ms
Interface		Serial ATA 2.6
Interface transfer rate		1.5Gb/s
Rotational speed		4,200RPM
External Dimensions (WxDxH; mm)		69.85mmx100.0mmx9.5mm
Weight		98g (max.)
Energy consumption efficiency ⁴		0.0040 W/GB / 0.0080 W/GB
	Classification	d
Temperature	Operating	-30°C – +85°C
	Non-operating	-40°C − +95°C
Atmospheric Pressure (Altitude) ⁵	Operating	495hPa (5,650m) – 1,050hPa (-300m)
	Non-operating	193hPa (12,000m) – 1,050hPa (-300m)
Vibration	Operating	29.4m/s ² , 3G (8-50Hz)
		24.5m/s ² , 2.5G (50-200Hz)
		19.6m/s ² , 2G (200-500Hz)
	Non-operating	49m/s ² , 5G (10-500Hz)
Shock resistance	Operating	2,940m/s ² , 300G (2.0ms,1/2sine)
		980m/s ² , 100G (11ms,1/2sine)
	Non-operating	7,840m/s ² , 800G (1.0ms,1/2sine)

TOSHIBA LAUNCHES HIGHEST-CAPACITY AUTOMOTIVE-GRADE HDD

About Toshiba Storage Device Division

Toshiba is a one-of-a-kind global storage company, offering hard disk drives (HDDs), optical disk drives (ODDs), 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. Through its Storage Device Division, Toshiba leads in the development, design and manufacturing of mobile, retail and enterprise hard disk drives. Toshiba SDD markets high-quality peripherals to original equipment manufacturers, original design manufacturers, value-added resellers, value-added dealers, systems integrators, distributors and retailers 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.

About Toshiba America Information Systems, Inc. (TAIS)

Headquartered in Irvine, Calif., TAIS is comprised of four business units: Digital Products Division, Imaging Systems Division, Storage Device Division and Telecommunication Systems Division. Together, these divisions provide mobile products and solutions, including industry-leading portable computers; projectors; imaging products for the security, medical and manufacturing markets; storage products for automotive, computer and consumer electronics applications; and telephony equipment and associated applications.

TAIS provides sales, marketing and services for its wide range of information products in the United States and Latin America. TAIS is an independent operating company owned by Toshiba America, Inc., a subsidiary of Toshiba Corporation. Toshiba Corporation is a world leader and innovator in high technology, a diversified manufacturer and marketer of advanced electronic and electrical products. These products span from information and communication systems: digital consumer products; electronic devices and components; as well as power systems including nuclear energy; industrial and social infrastructure systems; and home appliances. Toshiba was founded in 1875, and today operates a global network of more than 730 companies, with 199,000 employees worldwide and annual sales surpassing U.S. \$67 billion (FY2008). For more information on Toshiba's leading innovations, visit the company's Web site at www.toshiba.com.

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- 1. One Gigabyte (1GB) means $10^9 = 1,000,000,000,000$ bytes and One Terabyte (1TB) means $10^{12} = 1,000,000,000,000$ 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 $1TB = 2^{40} = 1,099,511,627,776$ 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.
- 2. Source: Toshiba Corporation research data 2009
- 3. Source: IDC report, "Worldwide Hard Disk Drive 2008-2012 Forecast and Analysis: Shrugging off Storage Technology Challenges"
- 4. Energy consumption efficiency is calculated in accordance with the Law Concerning the Rational Use of Energy in Japan, which was enacted in 1979 to promote energy conservation and reduce energy consumption. The Law Concerning the Rational Use of Energy was most recently revised in 2009 with specific measurement criteria reflected in the specification indicated. Calculation of energy consumption is based on dividing consumed energy by the capacity. The consumed energy and capacity is measured and specified by the Law Concerning the Rational Use of Energy.
- 5. Transfer functions set by the International Civil Aviation Organization's (ICAO) standard for atmospheric pressure states that variations can occur depending on conditions, such as temperature and other factors. Based on Chronological Scientific Tables, variations can occur depending on conditions, such as temperature and other factors