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**Eli Harari, Innovator of Flash Memory, to Receive
2009 IEEE Robert N. Noyce Medal**

*Developed and Commercialized Nonvolatile Memory Technology,
Fueling the Success of Mobile Computing and Consumer Devices*

PISCATAWAY, N.J. – 22 June 2009 – Eli Harari, an engineer and visionary businessman who recognized the potential of improved flash memory technology for portable and inexpensive data storage devices, is being honored by IEEE with the 2009 IEEE Robert N. Noyce Medal. IEEE is the world's largest technical professional association.

The medal, sponsored by Intel Foundation, recognizes Harari for his leadership in the development and commercialization of flash memory data storage technology and products. The award will be presented on 25 June 2009 at the IEEE Honors Ceremony in Los Angeles, Calif. For the first time, the IEEE Honors Ceremony will be broadcast live on the Web through IEEE.tv (www.ieee.tv).

As the principal founder, chief executive officer, chairman and technological guru of one of the world's leading semiconductor nonvolatile memory companies, Harari pioneered the creation of improved flash memory devices, growing the new technology and building SanDisk Corporation into an industry giant in the process. Flash memory can be repeatedly erased and reprogrammed; is nonvolatile, which means it does not need power to retain the data it is storing, and it is inexpensive. It is the basis for memory cards and USB storage devices that have enabled the development of digital cameras and digital music players as well as the growth of the smartphone and Solid State Drive (SSD) market as a replacement for hard drives.

SanDisk emulated the hard disk drive using improved flash devices, resulting in a solid state drive with smaller size, lower power consumption and better shock resistance. The original IBM Thinkpad carried SanDisk's first flash SSD in 1991, but the technology proved too expensive, and a dearth of applications prevented its widespread adoption. At SanDisk, Harari has overseen a number of breakthroughs in flash memory device design and system architecture that now makes these devices feasible for mainstream use, with industry analysts predicting that one in five notebooks will utilize a flash SSD by 2012.

Harari also was instrumental in the transition from NOR-based flash memory to NAND-based flash memory, resulting in a five-fold reduction in cell size, higher write and erase speeds and lower cost; as well as multilevel cell data storage, which increases density by storing two bits of data per cell. When combined with state-of-the-art semiconductor processes executed at the leading edge, these technologies resulted in the densest, lowest-cost-per-bit, nonvolatile solid-state memory possible. In 2009, SanDisk and Toshiba jointly announced the world's first 64 gigabit Flash chip that represents a 10,000-fold reduction in cost-per-bit compared to SanDisk's first product in 1991. Harari has worked in cooperation with many other companies to produce increasingly smaller industry-standard memory

devices such as the CompactFlash card, Secure Digital (SD) card, Memory Stick, miniSD and microSD. SanDisk continues to pioneer flash memory technology with the commercialization of X3, its three-bits per cell technology, as well as X4, its four-bits per cell technology. These are the most advanced multi-level cell technologies available to date.

An IEEE member with more than 100 U.S. and international patents, Harari's contributions to flash memory were also recognized when he received the 2006 IEEE Reynold B. Johnson Data Storage Device Technology Award with Sanjay Mehrota and Jack Yuan, SanDisk co-founders. He also received the 2008 Dr. Morris Chang Exemplary Leadership Award. He received his bachelor's degree in physics from Manchester University, United Kingdom, and master's and doctorate degrees in solid-state sciences from Princeton University, N.J. Before founding SanDisk in 1988, Harari worked for Hughes Microelectronics., Intel Corporation, Honeywell and WaferScale Integration. Harari has served as CEO since SanDisk's inception in 1988, during which SanDisk, Milpitas, Calif. has grown to over US\$3 billion in annual revenues.

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