

World's Smallest Hard Drive Now Bigger: 4GB on a One-Inch Disk

SAN JOSE, www.hgst.com, January 6, 2003 – Hitachi Global Storage Technologies today announced plans to squeeze four gigabytes of data onto the 1-inch Microdrive, the world's smallest hard disk drive. With considerable advances in miniaturization technology, Hitachi engineers have overcome numerous magnetic recording challenges associated with developing hard disk drives of this size. The 4GB Microdrive is expected to be available in the Fall of 2003.

The new drive will use ultra-miniaturized components, including a new read-write head that is half the size of its predecessor and results in a 40-percent decrease in the height at which the head travels above the disk platter. This feature is analogous to a Boeing 747 airplane flying one millimeter above the surface of the earth. The Microdrive's new head technology, called the femto slider head, opens up a next generation of head slider technology. The new technology is so small that it is equivalent in size to a grain of table salt.

Hitachi engineers have also drastically increased the tracks per inch to accommodate the Microdrive's areal density of more than 60 billion bits of data per square inch. This areal density required mechanical tolerances and accuracies to be significantly tighter in order to maintain the Microdrive's superior data integrity and reliability.

Pixie Dust Media Technology

The areal density of the 4GB Microdrive is made possible by using a new five-layer version of Hitachi's patented "Pixie Dust" media technology. This data storage breakthrough is achieved by taking a three-atom-thick layer of the element ruthenium, a precious metal similar to platinum, and sandwiching it between three magnetic layers. Technically referred to as antiferromagnetically coupled media, the ruthenium/magnetic layers enable data recording at ultra-high densities while maintaining data integrity.

Other significant technical achievements include a data transfer rate increase that represents a 50 percent improvement from the previous-generation Microdrive. Hitachi engineers estimate that the new data transfer rates are faster than all competitive solid-state data storage products available today.

“The Microdrive’s capacity is ideally suited for multimedia or other data-intensive applications that need to be accessed via a handheld device,” said Bill Healy, general manager, Mobile HDD Business Unit, Hitachi Global Storage Technologies. “Whether users are listening to music, watching movies on their PDA or shooting high-resolution photography, the Microdrive enables users to focus on the task at hand -- not on the amount of memory available in their device.”

Broad Industry Support

The 4GB Microdrive is designed to the CompactFlash Type II industry standard. HP and Eastman-Kodak are among the industry-leading companies that are evaluating the 4GB Microdrive. The new Microdrive is expected to broaden the variety and complexity of applications that can be run on handheld appliances and other consumer electronic devices.

The proliferation and sharing of digital content is driving the need for mobile devices that can run large multimedia and enterprise applications, but are portable enough to fit in the palm of a hand. Manufacturers of portable devices, handheld and laptop computers, digital still and video cameras and MP3 players are among the many technology products that are optimized to take advantage of the Microdrive’s substantial capacity and performance features.

"The HP iPAQ Pocket PC's high performance and brilliant display make it perfect for running rich multimedia applications," said Cindy Box, director of marketing, Smart Handhelds, HP. "The Hitachi Microdrive's impressive capacity and portability allow HP iPAQ Pocket PC users to watch movies, listen to music, and enrich their email experience with attachments while enabling new business applications."

“As digital cameras continue to evolve and increase in megapixels, consumers will take an increasing number of high-resolution images that need to be stored on a high-capacity, portable medium,” said Madhav Mehra, general manager, Digital Capture Systems, Kodak Professional. “Kodak is evaluating the Microdrive because its capacity and portability are well-suited to the needs of even the most demanding digital camera user.”

Product Availability

Hitachi currently offers the Microdrive in capacities ranging from 340MB to 1GB. The 4GB Microdrive is expected to be available in the Fall of 2003. Pricing will be announced later this year.

The Microdrive is currently the CompactFlash price performance leader with the lowest cost per megabyte in the industry. The new 4GB version Microdrive is expected to continue this leadership tradition.

Hitachi will participate, along with its development partners, in major industry events such as the Consumer Electronics Show and the Storage Visions conference in January to discuss the Microdrive advancements in greater detail.

About Hitachi Global Storage Technologies

Hitachi Global Storage Technologies was founded in 2003 as a result of the strategic combination of IBM and Hitachi's storage technology businesses. The company's vision is to enable users to fully engage in the digital lifestyle by providing access to large amounts of storage capacity in formats suitable for the office, on the road and in the home.

The company offers customers worldwide a comprehensive range of storage products for desktop computers, high-performance servers and mobile devices. For more information on Hitachi Global Storage Technologies, please visit the company's Web site at <http://www.hgst.com>.

About Hitachi, Ltd.

Hitachi, Ltd., headquartered in Tokyo, Japan, is a leading global electronics company, with approximately 320,000 employees worldwide. Fiscal 2001 (ended March 31, 2002) consolidated sales totaled 7,994 billion yen (\$60.1 billion). The company offers a wide range of systems, products and services in market sectors, including information systems, electronic devices, power and industrial systems, consumer products, materials and financial services. For more information on Hitachi, please visit the company's Web site at <http://global.hitachi.com>.

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