

M-Systems' 512 Megabyte and 1 Gigabyte DiskOnChip H1 Storage Solution Now Available to Meet the Additional Storage Requirements of Embedded Systems

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## MICROSOFT MOBILE & EMBEDDED DEVCON

LAS VEGAS--(BUSINESS WIRE)--May 10, 2005--

Large Capacity Embedded Flash Drive Delivers Cost-Effective, Non-Volatile Memory Solution for Automotive, High-End Printers, Handheld Gaming, MP3, GPS Devices and Other Memory-Consuming Applications

M-Systems (Nasdaq:FLSH) today announced, with the introduction of a family of specialized embedded software drivers, the upcoming availability of its DiskOnChip(R) H1 flash drive as a non-volatile memory (NVM) solution for embedded applications. DiskOnChip H1 delivers high-capacity, cost-effective, embedded storage for new memory-consuming applications such as automotive audio and car navigation, high-end printers and portable devices with multimedia requirements for handheld gaming, GPS and MP3 playback.

"We are excited M-Systems is providing support for Windows CE with its new high-capacity embedded flash drive," said Jane Gilson, director, Mobile and Embedded Devices Division at Microsoft Corp. "The solution not only provides abundant storage capacity, it highlights the customization capabilities offered by Windows CE and is a solid example of the wide variety of opportunities that can be leveraged using the Windows Embedded platform."

M-Systems' DiskOnChip H-series product line offers capacities of one gigabyte and 512 megabytes. It uses M-Systems' advanced x2 technology for multi-level cell (MLC) NAND flash silicon, allowing for a lower-cost, high-capacity product that meets the performance and reliability demands of a new generation of embedded applications.

"As flash prices continue to drop, DiskOnChip H1 offers the embedded industry an alternative solution to hard disk drives, while delivering faster integration, greater performance and improved reliability," said Ofer Tsur, vice president of sales and marketing for M-Systems' Embedded division. "Customers and partners are very excited about DiskOnChip H1, which, we believe, is the ideal storage solution for embedded applications where faster boot time and higher reliability are imperative."

"New doors are opening for embedded flash storage. Applications like automotive GPS maps require rugged but economical storage in the gigabyte range, but the sheer size of this data has forced auto makers to store their data in CD-ROMs, with all the limitations and reliability concerns inherent to mechanical systems," said Jim Handy, director of Non-Volatile Memory Services at Semco.

"Embedded products like M-Systems' DiskOnChip H1 that can deliver higher reliability at a competitive price should become increasingly accepted into such applications, and additional features like a smaller size and reduced power consumption will further enhance their appeal."

Unlike conventional storage solutions such as hard disk drives and mini-magnetic disk drives, solid-state DiskOnChip H1 provides portable electronic devices with the ruggedness needed to easily survive falls and other shocks.

Features of M-Systems' DiskOnChip H1 Product Line

Like other DiskOnChip products from M-Systems, the DiskOnChip H1 features a legacy NOR-compatible interface, allowing it to be used with practically any chipset. Cost benefits are derived from the efficient controller of DiskOnChip H1, which includes a boot block that can replace expensive NOR flash alternatives. Additionally, DiskOnChip consumes up to 90 percent less power than mechanical disks.

#### Technical Highlights:

- Technology: 90nm MLC NAND. 70nm expected by end 2005
- High capacity: 512 megabytes (4 gigabits) and 1 gigabyte (8 gigabits)
- Device cascade capacity: up to 2 gigabytes (16 gigabits)
- Small form factor: 115-ball FBGA 12x18mm package
- Interface: NOR/SRAM compatible
- Built-in eXecute In Place (XIP) Boot Block
- Performance: optimized for multimedia, 2.2 megabytes per second sustained write, 5 megabytes per second sustained read (including software overhead)
- Hardware protection and security enabling features
- Unrivaled data integrity with a robust Error Detection Code/ Error Correction Code (EDC/ECC) tailored for MLC NAND flash technology
- Maximized flash endurance with TrueFFS(R) software support
- Compatible with major CPUs and processors.

#### Availability of DiskOnChip H1 Support for Embedded Operating Systems

Software drivers supporting DiskOnChip H1 within Windows CE and Linux operating systems are scheduled for general availability in the third quarter of 2005. Drivers for VxWorks(R), INTEGRITY(R) and QNX(R) Neutrino(R) real time operating systems (RTOSs) are scheduled for general availability in the fourth quarter.

#### About M-Systems

M-Systems develops, manufactures and markets innovative flash-based data storage solutions for consumer electronics and embedded markets. The company targets the fast-growing multimedia mobile handset market with its DiskOnChip(R) and MegaSIM(TM) solutions and the popular USB flash drive market with its DiskOnKey(R) product. More information about M-Systems is available online at [www.m-systems.com](http://www.m-systems.com).

Note to Editors: High-resolution photo images of M-Systems' products can be found on the Internet at [www.m-systems.com/content/Corporate/Press/Photos.asp](http://www.m-systems.com/content/Corporate/Press/Photos.asp).

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