For Immediate Release

BP Microsystems Optimizes Intel's Flash Memory Line

Houston, Texas — May 2, 1997 — BP Microsystems, Inc. announces today its *optimized programming times* of Intel's Flash memory line. Intel evaluated the optimized algorithms on BP Microsystems' device programmers in their Folsom, California facility. Intel's Programmer Evaluation Lab performs device programmer testing on their devices to obtain improved programming times. Intel uses a worst-case data pattern to evaluate the erase, program, and read operations on device programmers. BP Microsystems worked with Intel to optimize the programming times on BP programmers. The improvement, due to slight modifications to the algorithms, decreased programming times by an average of 44% as calculated by BP Microsystems Engineering Team*.

Previously, the E28F008BV-T programmed and verified in 3:31. After optimization, the E28F008BV-T programs and verifies in 1:30, a decrease of 57% from the original programming time. These faster programming times allow significant benefits for both Intel and BP customers. "Our mutual customers save time and money using faster programming algorithms," said Peter Larsen, Programmer Evaluation Lab Manager at Intel Corporation. "Faster programming times mean greater device throughput in manufacturing environments. By using the combination of Intel's SmartVoltage flash technology and BP Microsystems' quick programming algorithms, our common customers enjoy a high-throughput manufacturing programming solution."

The optimized algorithms are available in version 3.23, which can be downloaded from the BP Microsystems Bulletin Board System or Web site. With optimization, BP Microsystems now offers faster programming of all newly introduced Intel Flash memory products.

BP Microsystems Contact:
Kathy Sjoden *Julie Wallace*
Marketing Coordinator *Semihouse Relations*
800-225-2102/713-688-4600, ext. 519 *800-225-2102/713-688-4600, ext. 538*
E-mail: kathy_sjoden@bpmicro.comE-mail: julie_wallace@bpmicro.com
Web Site: http://www.bpmicro.com *BBS: 713-688-9283*

*For additional optimization times and information, please see the provided supplemental information.

Supplemental Information

Optimization Times

Device	Operation	Old	New	Difference	Improvement
DD28F032SA	Program		1:59		
	Verify		1:31		
	All	6:56	3:31	3:26	49.48%
E28F016SV	Program		0:57		
	Verify		0:42		
	All	3:14	2:02	1:11	36.97%
PA28F800BV-T	Program		0:39		
	Verify		0:21		
	All	2:41	1:11	1:29	55.61%
PA28F400BV-T	Program		0:19		
	Verify		0:11		
	All	0:51	0:33	0:18	34.88%
E28F008BV-T	Program		0:54		
	Verify		0:26		
	All	3:31	1:30	2:01	57.35%
E28F004BV-T	Program		0:27		
	Verify		0:13		
	All	1:24	0:50	:33	39.62%
E28F002BV-T	Program		0:14		
	Verify		0:07		
	All	0:42	0:25	0:17	39.96%
E28F001BX-B	All	0:24	0:15	0:09	37.99%
Average Improvement					43.98%

The above table is a sample of Intel devices. The programming and verifying times were calculated by the BP Microsystems Engineering Team. There is an apparent improvement between the old and new programming times.

BP Microsystems works with over 75 semiconductor manufacturers to support all existing and new devices. With BP Microsystems' Complete Device Support (CDs) program, we now support over 9,500 devices.

Intel Evaluation Lab Information

1. Why does Intel perform device programmer testing in the Programmer Evaluation Lab?
Our goal is to solve programmer problems in the Intel Programmer Evaluation Lab, NOT in customer production lines. We perform more that 2000 different tests on device programmers. When a device programmer passes our stringent test criteria we share information of the successful testing on our WW1 page, http://developer.intel.com/design/flcomp/devtools/fl20.htm.

2. How many different Intel Flash Memories do we test in the Programmer evaluation Lab?
In the Programmer Evaluation Lab, Intel tests 100 different Intel Flash memories on the BP Microsystems device programmers.

3. Why does Intel perform algorithm optimizations for Intel Flash memories?
The Intel programmer evaluation lab adds value to device programmer vendors algorithms by suggesting methods to improve programming speeds. We analyze programming algorithms in our lab and work with the TPVs to gain the greatest programming efficiency with Intel Flash memories. In some cases we improved programming speeds by 57%.