

## CAST Introduces 6805- and 6811- Compatible Microcontroller IP Cores

*Popular microcontrollers further distinguish CAST as the  
broadest single source for 8- and 16-bit processor cores*

**June 2, 2003 (Design Automation Conference) Anaheim, California** — Semiconductor intellectual property (IP) provider CAST, Inc. today announced two new cores that are 100% software compatible with the popular M68HC05 and M68HC11 microcontroller families from Motorola. Suitable for a wide variety of embedded controller applications, these cores provide better performance and features than the originals, have been silicon-proven in several ASIC designs, and offer easy reuse and efficient implementation in ASICs or FPGAs.

“Thousands of designers for years have created great products around the 6805 and its bigger brother the 6811, and our new cores enable this success to continue for everything from advanced new SOCs to cost-effective legacy part replacements,” said Hal Barbour, president of CAST. “Adding these proven designs makes CAST the broadest single source for 8- and 16-bit processor cores, including compatibles for the 8051, PIC®, Z80®, 68000, 80186, and other popular MCUs.”

### **About the New Cores**

The CAST C6805 core is available now. It supports all the features of the M68HC05, plus it operates four times quicker (requiring fewer cycles per instruction), offers an eight-times larger memory space (64 Kbytes), and has a four-times larger stack (64 Bytes). Several parameters are user-programmable including power-saving modes, and the design provides for industry-standard JTAG testing. The C6805 yields efficient implementation results: reference design examples require just 5,400 gates using a 0.18 micron ASIC library, 1397 logic elements using an Altera Cyclone, and 695 slices using a Xilinx Spartan 3.

The CAST C6811 core will ship in the third quarter. It supports all the features of the M68HC11, including 8-bit external operation with powerful internal use of 16-bit registers. The core has enhancements over the original similar to the C6805's, plus additional instructions for full direct mode addressing support, built-in memory test, and other operations.

Typical applications for the new cores include small-scale industrial controllers, a variety of automotive systems, portable medical devices, and consumer products for personal care.

Both cores have been rigorously verified through detailed core and system simulation, code coverage evaluation, and actual field-testing of implemented products. They are designed for easy reuse and are available in soft format (HDL source) for ASICs or firm (optimized netlists) for FPGAs. Their deliverables include extensive debugging and verification aids, and thorough specification and integration documentation.

## About CAST, Inc.

CAST provides general purpose IP (gpIP), a broad range of popular and standards-based cores that includes processors, interfaces, and application-specific functions for multimedia and encryption. Using these cores allows designers to concentrate on the more unique, creative aspects of their system designs, or to quickly incorporate technology beyond their normal expertise. Companies licensing CAST cores can significantly shorten their development time and reduce their overall costs.

Privately owned and operating since 1993 with a focus on making IP practical and affordable, the company has established a reputation for high-quality products, simple licensing, and responsive technical support. CAST is located near New York City, and works with an international network of IP developers and distributors.

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### Editors Notes:

"PIC" is a registered trademark of Microchip Technology Inc.

"Z80" is a registered trademark of Zilog, Inc.

CAST, Inc.  
11 Stonewall Court, Woodcliff Lake, NJ 07677 USA  
Tel: 201/391-8300 Fax: 201/391-8694 info@cast-inc.com www.cast-inc.com  
PR contact: Paul Lindemann, Montage Marketing, 603/490-4985 paul@montmark.com

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