

32-BIT SUPERSCALAR RISC SH-4 MICROPROCESSORS OFFER OPTIMISED ARCHITECTURE FOR HIGHER PERFORMANCE

Maidenhead, 17 July, 2002 – Hitachi today announced two new SH-4 32-bit superscalar RISC embedded microprocessors that offer higher frequency and a new cache architecture. The high performance SH7751R and SH7750R devices are ideally suited for multimedia appliances, Car Information Systems and low-cost networking applications and provide full software and pin compatibility, enabling an easy migration path from the SH-4.

The new devices boast a superscalar architecture, full floating point engine, SIMD (Single Instruction Multiple Data) acceleration for 3D and DSP, and 16-bit fixed instruction length for low memory footprint. The SH7751R offers an integrated PCI controller while the SH7750R has a 64-bit SDRAM interface which provides a large memory bandwidth. Both offer higher performance (430MIPS/1.7Gflops) and higher frequency (240MHz) than existing SH-4 devices, with 64-bit bandwidth to provide a memory throughput up to 120MHz SDRAM access at a peak of 960Mbyte/s.

The new cache architecture from direct map to 2-way set associative reduces the cache miss and increases the real time capabilities. Operating at 1.5V, they have four additional DMA channels (eight in total), support a wide temperature range from -40°C to +85°C, and provide 16Kbytes instruction and 32Kbytes data cache memory.

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The new devices support the complete multimedia software stack which includes operating systems, JavaVM, browser, e-mail, OSGI, VoIP, H.323 suitable for Java-based embedded applications, Internet appliances and Multimedia interactive TV. Other specific multimedia middleware such as speech recognition, text to speech, MP3 and MPEG-4 are also supported for Car Information System applications. The low-cost, high throughput, flexible PCI architecture of the new SH-4 make it suitable for low-end networking such as firewall, virtual private network (VPN) and residential gateways.

“The SH-4 has achieved high-volume success in the Car Information System market over the past 3 years,” said Francois-Xavier Godet, SH-4 product marketing at Hitachi Europe. “This has enabled us to develop the enhanced specification SH-4 and offer it to customers at a very competitive price.”

The new SH-4 series is supported by one of the widest ranges of operating systems including open source Linux, VxWorks, QNX and Windows CE.NET (which is now boosted by the FPU implementation). The new devices are in full mass production and are available in Ball Grid Array (BGA) and Quad Flat Pack (QFP) packages. More information can be found at <http://superh.hitachi-eu.com>

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About Hitachi Europe Ltd.:

Hitachi Europe Ltd., is a wholly owned subsidiary of Hitachi, Ltd. Japan. It has operations throughout EMEA which provide sales, marketing, technical support and research and development. Hitachi's semiconductor and display products are key components in the fields of smart cards, communications, automotive, consumer, industrial, displays and system LSI. They include the SuperH™ RISC microprocessors, the H8 microcontroller family, smart card controllers, TFT displays, memories (Flash and SRAM), transistors and diodes, and network products. For reader enquiries or more information on the products and services offered in Europe by Hitachi Semiconductor, please visit the Web site at:

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About Hitachi

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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