

AT91CAP9HA-DK Development Kit

for CAP Customizable Microcontroller

The AT91CAP9HA-DK Development Kit is the ideal platform to start developing designs on the ARM926EJ-S™-based CAP9H customizable microcontroller. The fixed portion of the CAP9H device is implemented as a microcontroller standard product, coupled to a high-density FPGA, integrating the equivalent of 2 million ASIC gates, that emulates the metal programmable block. The kit can be rapidly configured to emulate the behavior of a design under development. This saves time and reduces development costs, enabling customer designs to be fully debugged before commitment to metal programmed silicon, making right-first-time silicon easier to achieve.

The kit consists of three associated boards, the motherboard, mezzanine and memory extension, to be used jointly. The boards include a range of memories and physical interfaces/connectors representing external system components. This configuration enables parallel hardware/software testing of the application under development at close to operational speed, with no penalty for hardware modifications. Software development proceeds in parallel with hardware development, and significantly reduces the design cycle time, increasing confidence in a right-first-time system solution.

Motherboard

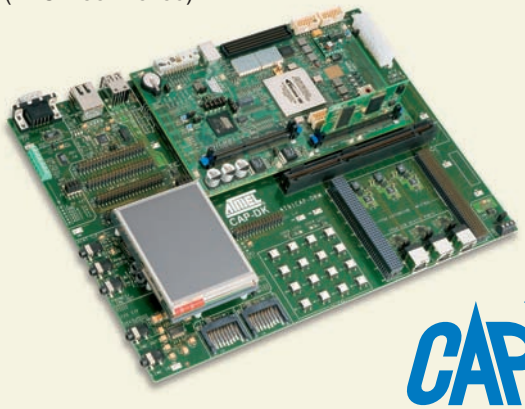
- ATX power supply connector
- 2x Full-speed Host USB interfaces
- 100-base T Ethernet PHY with three status LEDs
- DBGU serial communication port
- 4x analog inputs
- AC97 interface with three 3.5 mm audio jack connectors
- I2S audio codec with two 3.5 mm audio jack connectors
- 2x SD/MMC card slots
- Atmel TWI serial EEPROM
- 3.5 inch QVGA display LCD with Touch Panel
- Touch Screen Controller
- Image Sensor expansion connector
- Push button keyboard and user LEDs
- CAN bus interface
- PIO expansion connectors (PIOA, PIOB, PIOC, PIOD)
- Extension connectors
- 3x USB device PHY interfaces with USB B connectors (FPGA controlled)

Mezzanine Board

- AT91CAP9 ARM926EJ-S-based microcontroller
- Altera® Stratix® III FPGA, equivalent to 2 million ASIC gates (lower cost version available equivalent to 1.5 million ASIC gates)

Memory Extension Board

- 1.8V option hosting Burst Cellular RAM, NAND Flash, Mobile DDR SDRAM and a service TWI EEPROM
- 3.3V option hosting SDRAM, NAND Flash, NOR Flash and a service TWI EEPROM



CAP™

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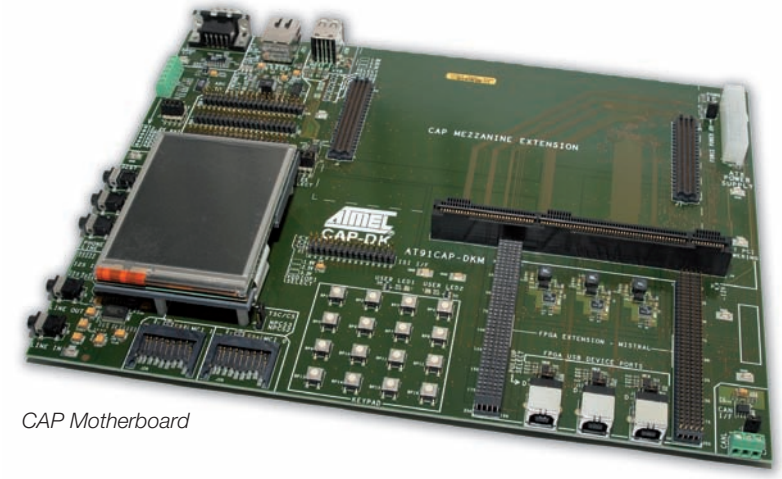
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CAP Product Family Development Kits

The CAP family of ARM7™- and ARM9™-based products is supported by a full range of development kits. The motherboard is common to all kits. Mezzanine boards and memory extension boards are available in different variants to respond to customer needs in gate count and memory type.

Product	Gate Count	Memory Type
AT91CAP7X Dev Kit	Xilinx® Virtex® 4 FPGA (equivalent 500K ASIC gates)	1.8V Memory Board 3.3V Memory Board
AT91CAP9A Dev Kit	Altera® Stratix® II FPGA (equivalent 500K ASIC gates)	1.8V Memory Board 3.3V Memory Board
AT91CAP9HA15 Dev Kit	Altera® Stratix® III FPGA (equivalent 1.5M ASIC gates)	1.8V Memory Board 3.3V Memory Board
AT91CAP9HA20 Dev Kit	Altera® Stratix® III FPGA (equivalent 2M ASIC gates)	1.8V Memory Board 3.3V Memory Board



CAP Motherboard



CAP7X Mezzanine Board



CAP9HA Mezzanine Board



CAP9A Mezzanine Board

CAP™

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