

WebNet S-1 Module

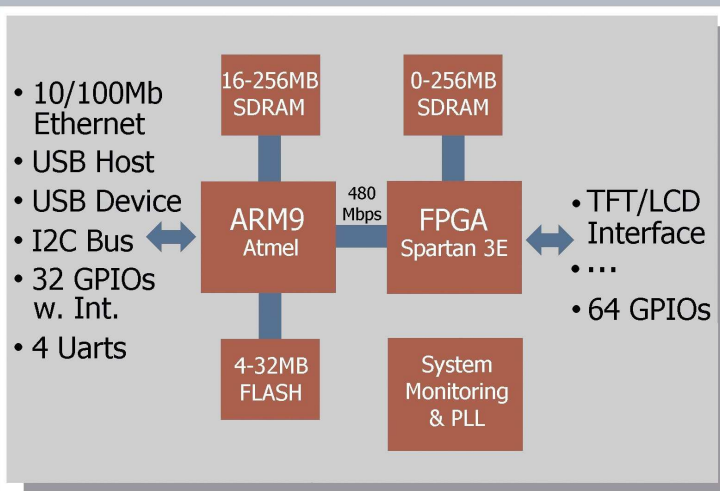
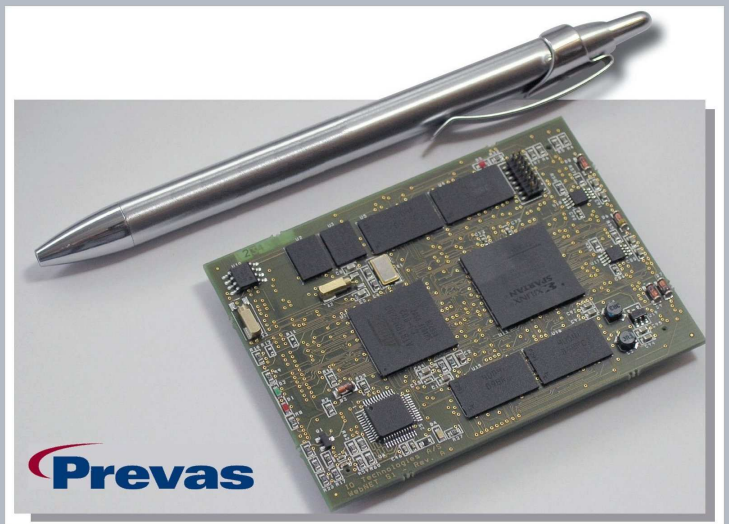
ARM9 Linux Computer with FPGA Co-processor

Three Processor System

The WebNet S-1 is a new generation of Linux modules with both serial and parallel processors.

The module contains three processor systems:

- 200MHz ARM9 computer with up to 32MB FLASH, 256MB SDRAM, Ethernet 10/100, USB 2.0, etc. TFT/LCD interface through FPGA. Linux OS.
- 200MHz FPGA with up to 256MB SDRAM and 64 parallel 100MHz GPIOs. The FPGA can be reprogrammed over Ethernet.
- Independent μ Controller for advanced system monitoring.



Fast way from idea to product

The module is suitable for both prototyping and production as both memory and FPGA can be scaled to fit performance and cost requirements. The number of systemboards, reference designs, and FPGA IPs increases continuously.

Serial and Parallel Computing

The ARM9 processor runs a Linux operating system and is a powerful embedded computer for man-machine interfaces and machine-machine network communication and surveillance. Other OS like ThreadX, Vx-Works and Windows CE are also possible.

The programmable FPGA is a true real-time data processor and may serve many purposes: DSP, flexible display interface, high-speed parallel I/O control, custom interface gateway etc.

The μ Controller serves as boot monitor, power watchdog with external monitoring and early warning, temperature, and reset logging.

For more information please contact Prevas A/S:

- Frederikskaj 6, DK-2450 Copenhagen SV +45 33159090
- Gåseagervej 6, DK-8250 Egå +45 87438070

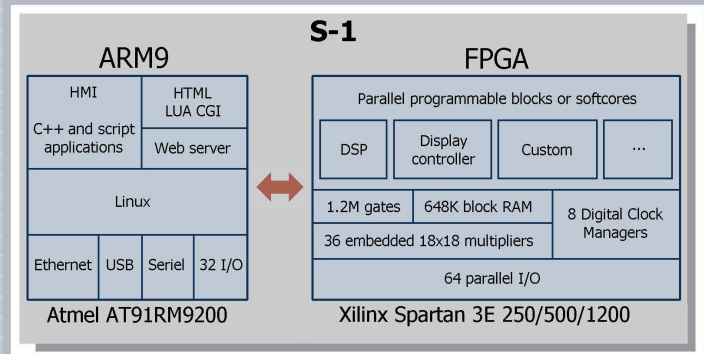
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Numerous Solutions

The combination of an ARM9 processor and an FPGA in a single embedded component can be used in various applications such as:

- A PLC alternative with 64 parallel programmable 100 MHz IOs, 1280*1024 LCD touch display. standard and customized interfaces (RS232/485, CAN, etc.), and system management and software updates over Ethernet.
- Digital signal processing system for vision systems, advanced control systems, multimedia streaming, and IP calls processing, etc. A running system can be reconfigured with new DSP algorithms over network, through an Internet browser connection to the embedded Web server.



Please, contact Prevas A/S for an application discussion if you think the module is relevant in your next design.

Specifications

- 200MHz ARM9 with up to 256MB SDRAM and 32 MB FLASH memory.
- SPARTAN 3E 250/500/1200 FPGA with up to 256 MB RAM for real-time data processing and flexible display support.
- 480 Mbps bus connecting ARM9 and FPGA.
- 10/100Mbit/s Ethernet.
- Complete Linux OS with http and ftp server.
- Open source development tools.
- USB 2.0 host and device interfaces.
- I2C bus.

- 4 UARTS with TTL signal levels
- Real Time Clock.
- Programmable PLL clocks (up to 166MHz).
- 32 CPU GPIOs with interrupt capability.
- 64 FPGA GPIOs.
- Flexible LCD interface through FPGA - 300MB/s video-memory bandwidth.
- System management μ Controller - watchdog, temperature, reset logging.
- Power Supply: 3.3V, 2 W.
- Size 75 x 55 mm.
- Available at industrial temperature range: -40° - +85°C.

Configurations and Prices

The S-1 module is highly configurable. Both FPGA, FPGA SDRAM, ARM SDRAM and ARM FLASH size can be scaled to match performance requirements.

S-1 version	ARM memory Flash		ARM memory SDRAM		FPGA Spartan 3E	FPGA memory SDRAM		Price estimate (1000 pcs.) €
	AF1	AF2	AM1	AM2		FM1	FM2	
1	8MB		16MB					68
2	8MB		16MB	16MB	250			81
3	8MB		16MB	16MB	500	16MB		101
4	8MB		32MB	32MB	500	16MB	16MB	115
5	16MB	16MB	32MB	32MB	1200	32MB	32MB	149
Custom	4MB - 16MB	0MB - 16MB	8MB - 128MB	8MB - 128MB	250/500/1200	0MB - 128MB	0MB - 128MB	Contact Prevas

The table shows 5 standard configurations: From a light version without FPGA to a very powerful with the largest FPGA and SDRAM in all memory banks. Full custom configurations are also available.

