

SaJe™

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PRICING!

SYSTRONIX®

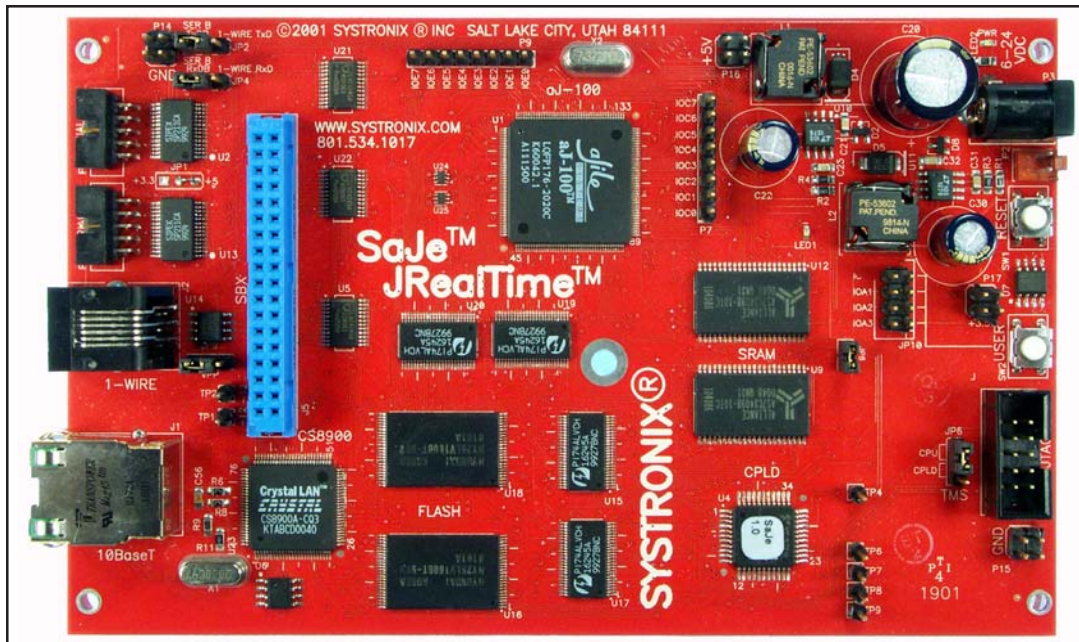
Real-Time Native-execution Java™!

SaJe is our first and fastest native-execution Java platform, with 10 nsec heap SRAM.

Experience the rapid development and reliability of Java -- with blazing fast native execution and deterministic real-time capability.

SaJe typically executes 25-35 million Java byte codes per second at 103 MHz (8-12 times the speed of a 73 MHz JStamp).

Actual size is 100x160 mm (3.9 x 6.3 inches)



SaJe - the **power** of realtime J2ME/CLDC Java with the **speed** of native execution

SaJe - ultra-fast 32-bit memory, 10BaseT, **SBX** I/O, and **1-Wire**, all in a 100x160 mm **Euroboard**

Imagine what a native Java embedded control system with real time capability could do for you -- all the benefits of Java -- with native execution speed and Real Time support!

Multi-tier network capability: TCP/IP and 1-Wire, and typical RTOS functionality is all included.

SaJe (Systronix **aJile** euroboard) includes four MBytes of Flash and one MByte of very high speed SRAM, 10 BaseT ethernet, dual RS232 serial (DCE or DTE), 1-Wire network, JTAG programming/debug port, and more.

Standard Euroboard size makes SaJe especially easy to package for special or harsh environments.

- aJile aJ-100™ Real-Time Java Processor. Executes Java code natively with a 32-bit architecture.
- 1 MByte 10 nsec SRAM, 4 MBytes 90 nsec Flash. 32-bit wide memory interface for maximum performance.
- Dual RS232 ports, each can be DCE, or DTE. Javacomm support is provided for all UARTs.
- Dallas 1-Wire network with on-board DS2480B and RJ12 connector. Blue Dot readers, 8x1Wire and other standard devices plug right in.
- A pushbutton and LED for your use
- On-board voltage regulator, 8-20VDC input, over 500mA at 5VDC available for use with SBX expansion.
- Optional keypads and character LCDs (requires SBX2 expansion module), or graphical LCDs via serial connection.

aJ-100 is a TradeMark of aJile Systems
Java is a TradeMark of Sun Microsystems, Inc
1-Wire is a TradeMark of Dallas Semiconductor Corp
SaJe is a TradeMark of Systronix, Inc

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SaJe - Native Java Execution with Real Time Java Support!

SaJe uses the powerful aJ-100 native Java processor from aJile Systems. This provides fast and efficient Java instruction execution, plus a small memory footprint - 2 to 3 times denser than code for 32-bit RISC machines.

SaJe includes a microprogrammed real-time Java thread manager with typical RTOS functions included. It includes Java threading primitives implemented as atomic instructions, a priority-based scheduler, and extremely fast context switching and interrupt response.

SaJe supports multiple application execution through "multiple JVMs" in which applications execute in a deterministic, time-sliced schedule. Each application has its own thread management and event handlers.

Excellent for Research

Because of its extremely fast execution (especially when executing out of SRAM), SaJe is in use at major universities and research facilities around the world.

Timers and Counters

The aJ-100 has multiple timers and counters, including PWM output.

Memory

SaJe is ready for serious work with 4 MBytes of 90 nsec flash and 1 MByte of 10 nsec SRAM. Code can be executed from flash or SRAM. Because the JVM is in silicon, all of this memory is available for your application. There are no conventional software JVM, OS, or RTOS layers to slow you down - it's all in silicon.

User I/O Pins

SaJe has eight 24-mA I/O pins plus many additional 8-mA pins (some of which also serve the UART and SPI functions). All I/O pins are TTL-level compatible (thresholds of 0.8 and 2.0 volts) and are 5-volt tolerant. They are compatible with 3V and 5V TTL and 3V CMOS logic. Like other 3V systems, they are not compatible with 5V CMOS which has a 2.5V threshold.

I/O Expansion

The industry standard 8-bit SBX "mezzanine bus" interface is an easy way to plug on additional memory-mapped I/O from multiple vendors, or create your own. The 1-Wire network provides plug-in support for a variety of low cost sensors and actuators including ADC, DAC, counters, and digital I/O.

Easy JTAG Programming and Debugging

The JTAG interface provides rapid programming and debugging with aJile's JEM Builder and Charade development tools, and the JSwat Java source-level debugger. Software requires 32-bit Windows and a PC parallel port.

Free Tool Updates, Tutorials and Support

Tutorials and examples come on CDROM and are online with product-specific links at www.jrealttime.com. A year of free tool updates and documentation are available online. More online tutorials and benchmarks are available at the website www.PracticalEmbeddedJava.com. Expert user discussion groups are free and open to everyone.

SaJe TECHNICAL DETAILS

Microcontroller aJ-100, 32-bit internal core, ALU, and memory. Direct JVM bytecode execution requires no interpreter or JIT compiler. The controller uses a 7.3728 MHz crystal, executing at user-configurable 1X to 14X multiples of that.

Java Sun-licensed J2ME/CLDC with additions such as floating point primitives and periodic threads.

Memory 32-bit wide data path to 4 MBytes of 90 nsec flash and 1 MByte of 10 nsec SRAM.

Power Unregulated 8-20 VDC from a 5.5x2.5 mm jack. Efficient switching regulator is reverse-polarity, short-circuit and over-temperature protected. SaJe consumes less than 500 mW, and 5V @ 500 mA is available for your use. Recommended power source is the Systronix 12VDC 1A power cube. On board switching regulators provide 5VDC 1A and 3.3V 1A.

Serial I/O Two RS232 serial I/O, with adapters for DTE/DCE, serial1 can also be switched to the 1-wire network.

Ethernet 10BaseT with link and activity LEDs

1-Wire Dallas 1-Wire network support with a DS2480B on serial1, and an RJ12 connector wired in the standard Dallas/Systronix pinout. Ideal for low-cost sensing and control.

LEDs and Switches One pushbutton and one LED are provided for experimentation.

Expansion 8-bit SBX connector with up to 16 decoded addresses and two interrupts.

Size Standard 100x160 mm single Eurocard size, hundreds of enclosures available (some stocked by Systronix) including RF shielded, NEMA rated, etc.

Environmental Commercial temperature 0 to 70 deg C.

Support & Warranty Friendly technical support. One year warranty against defects (processor is warranted separately by aJile Systems).

All development systems include:

- aJile development tools license CD-ROM. IEE1284 to JTAG adapter, one each 2mm to DB9 DTE and DCE adapters. Mains power adapters available separately. Data sheets, PDF quick reference and schematics online.
- You must purchase at least one Systronix JStamp, JStik, or SaJe development kit to obtain the aJile tools and support license. Thereafter you can purchase additional OEM boards, JTAG pods, and so forth "ala carte".

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