The Embedded Systems West conference takes place Sept 26 to 30 in San Jose, CA. The conference covers TCP/IP networking, object-oriented programming in Java, the Universal Serial Bus, graphical user interfaces for embedded applications, distributed software design challenges and solutions, Windows CE, flash-memory technology and techniques, and more. More than 250 exhibitors showcase their products. Here’s a look at some of the exciting new stuff you’ll see.

**CompactPCI single-board computer**
- High-availability controller provides three control signals for each of the computer’s seven CompactPCI (CPCI) I/O slots (21 signals total)
- Driven by a 333-MHz Pentium II processor
- cPCI-MXS, $2150 (without synchronous DRAM)

**SOIC prototyping adapter**
- Eight- to 28-pin SOIC test socket connected to a header
- Header connects to solder-down plugs
- PA-SOD-2808-XX, $70

**Royalty-free RTOS**
- Accommodates dynamic task loading and memory protection
- Works with 16-, 24-, 32-, and 64-bit RISC, CISC, and DSP cores
- Precise/MQX V2.50, from $12,500

**8-bit μCs enable system partitioning.**
Based on an enhanced RISC core, the PIC18CXXX family of 8-bit OTP μCs provides system-on-chip and system-partitioning capabilities for embedded applications. The series offers as much as 2 Mbytes of program-memory address space, a C-compiler development environment, and 10-MIPS performance at 40 MHz. The PIC18C242 and PIC18C442 have 8192×16 bits of OTP program memory and 512 bytes of user RAM. The PIC18C252 and PIC18C452 have 16,384×16 bits of OTP program memory and 1536 bytes of user RAM. All four devices contain analog peripherals, including five- to eight-channel, 10-bit ADCs; programmable low-voltage reset; and programmable brownout detection. Prices range from $5.98 to $7.41 (10,000).

**Stand-alone gang programmer**
- Now programs SX μCs from Scenix Semiconductor
- Accommodates DIP, SOIC, SSOP, and QFP devices
- PGM2000, $500; adapters, $450 to $850
_Advanced Transdata Corp_, 1-972-980-2960. _Circle No. 403_

**PCI memory controller**
- PCI slave device with integrated synchronous-DRAM controller
- Hot-swap ready
- V370PDC, $16 (10,000)

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Java development platform
- Supports the Java Abstract Windowing Toolkit
- Works with Windows CE, Windows NT, VxWorks, and Linux
- Jeode V1.5, from $9995 for single-developer binary-code license

TCP/IP porting kit
- Ports the KwikNet TCP/IP stack to any RTOS and processor
- Enables you to use KwikNet without an RTOS
- KwikNet Porting Kit (KwikNet site license, $12,500)

IDE for distributed real-time systems
- Combines Unified Modeling Language and Software Description Language (SDL) object-oriented graphical languages
- Comes with free SDL-MSC viewer

PPMC module packs 466-MHz PowerPC CPU.
Keeping within standard PMC power and dimension standards, a PowerPC 750 processor running at speeds of 366 to 466 MHz drives the Palomar II PPMC module. The Palomar II also supplies a 1-Mbyte L2 cache, 64 Mbytes of synchronous DRAM with error-correcting code, 4.5 Mbytes of flash memory, two serial ports, and a JTAG port. Combined with a real-time operating system, such as VxWorks, Palomar II brings the processing power and memory of a 6U card to the PMC form factor. Prices start at about $1500 (OEM).


Java-specific μP
- Runs Charis pico Virtual Machine Java software
- Targets memory-constrained embedded systems
- PSC1000

ObjectGeode V4.1 for Windows, from $5700

Data-acquisition IC
- Packs dual 12-bit DACs, a 12-bit ADC, flash memory, and an 8051/8052 μC core
- Supports IEEE-1451.2 common transducer interface
- ADuC812, less than $8 (10,000)
**Multisite programmer**
- Two-, four-, and six-site configurations
- Programs 12,426 device types, including antifuse, flash, CPLD, and EEPROM
- BP-2500 Concurrent Programming System, from $14,995
**Circle No. 412**

**Linux-hosted C cross-compilers**
- Compiler tool suite for 68HC08 and 68HC12 µCs
- Object format is host-independent
- C cross-compiler package for Linux, from $1950
**Circle No. 413**

**Automotive RTOS**
- Based on the OSEK/VDX standard for in-vehicle real-time operating systems (RTOSs)
- Comes with complete source code and is royalty-free
- Nucleus OSEK, from $29,000

**CompactPCI development system handles multiprocessing.**
CompactNet is a multiprocessing option for the ZT 5082/MP development system, an 8U rack-mount system for implementing CompactPCI applications. The multiprocessing option comprises a system master CPU, such as the Pentium processor that drives the ZT 5082/MP; one or more peripheral master CPUs (ZT 5540 CPU board with Pentium II); standard operating-system support; and standard network software protocols. CompactNet’s network-in-a-box approach lets you consolidate multiple PCs into one rack-mount enclosure with multiple CPU-board servers. Development-system configurations start at $4495. **Ziatech Corp**, 1-805-541-0488, www.ziatech.com.  
**Circle No. 411**

**Circle No. 414**

**32-bit single-chip microcomputer**
- Based on E0C33 CMOS RISC core
- Offers voice-synthesis and -recognition capabilities
- E0C33A104, from $7.77 (100,000)
**Circle No. 416**

**Real-time programming software**
- LabView for real-time control applications
- Runs on RT series data-acquisition

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**PC/104-plus single-board computer**
- Employs Intel Tillamook MMX processor running at as much as 266 MHz
- Withstands fixed, portable, and mobile embedded-application environments
- CoreModule/P5e, from $583 (OEM)
**Circle No. 415**

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boards under Windows
● LabView RT, from $2495

Dual-CPU board
● Two 550-MHz Pentium III processors and 1 Gbyte of memory
● Two-slot CompactPCI board
● C2P3, from $1995 (less processor and memory)

Processor PCI mezzanine card
● An MPC750 PowerPC processor running at 233 or 350 MHz drives the device
● PMC module serves as host or slave
● PPMC750, from $1095

Device-networking kit
● Software and hardware for building embedded device-networking prototypes
● Targets 8- and 16-bit designs
● EMIT 3.0 SDK Pro, $3995

Interactive tracing system
● Provides runtime tracing for IBM PowerPC 405GP and 403 chip sets
● Allows insertion of user-defined code fragments while the application runs on the target
● LiveCode, from $4000

Peripheral-slot CPU board
● CompactPCI board with 266- or 333-MHz Pentium II processor
● Two PMC expansion sites
● CPCI-731, from $2295

8-bit µC operates to as little as 1.2V.
Able to operate from a supply voltage of 5.5V to as little as 1.2V, the XE8301
8-bit µC needs as little as 200 µA at 1 MIPS. In halt mode, the device maintains a real-time clock using only 1 µA. The XE8301’s CoolRISC core is an 8-bit processor with 22-bit-wide instructions. Each instruction executes in one clock cycle, including multiply, conditional-jump, and two’s-complement functions. Available in SO packages and in die form, the XE8301 comes with 512 bytes of RAM and 176 kbits of ROM or multiple-time-programmable (MTP) memory. The XE8301 costs $2.10 in SO versions and $2.30 with the MTP option (100,000). Xemics, +41 32 720 5511, www.xemics.ch. Circle No. 423