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Alpha-based SBCs and backplanes employ PCI bus.

Adhering to the standards that the PCI Industrial Computer Manufacturers Group established, a PCI passive backplane and two PCI single-board computers (SBCs) are built around a 64-bit RISC Alpha architecture. You have a choice of Windows NT, VxWorks, Digital Unix, and OpenVMS operating systems. The backplane system comes in desktop, tower, and rack-mount enclosures. The Alpha 21064 and 21164 processors, respectively, run as fast as 300 MHz and power the 64 and 164 motherboards. Respective prices for the PCI 64 and PCI 164 for Windows NT are $2853 and $4218, each with a 2-Mbyte cache and a 275-MHz CPU. Digital Equipment Corp, Marlborough, MA. (800) 332-2717.

Simulator eases 8051 microcontroller debugging.

For 8051, MCS251, HC08, and 80C166 microcontrollers, the CrossView simulator tests and debugs code in a known and repeatable environment, independent of target hardware. The software accurately simulates the instruction set of the microcontroller and allows simulation of as many as eight I/O streams using data files for input and outputs. CrossView SIM runs under DOS and Windows with prices starting at $495. Boston Systems Office/Tasking, Dedham, MA. (617) 320-9400.

68K debugger teams with emulator/analyzer.

The SingleStep/ICE interface for the vendor’s 8800 emulator/ analyzer provides a Windows-based C/C++ debugging environment for the 68K family of processors. Based on Software Development’s SingleStep debugger, the SingleStep/ICE integrates the debugger's capabilities with those of the 8800. For instance, it gives you access to the 8800's real-time event system for hardware breakpoints and real-time trace. You can also set emulator-memory mapping and low-level in-circuit-emulator-control functions. SingleStep/ICE costs $2395; 8800 prices range from $10,000 to $16,500. Orion Instruments Inc, Sunnyvale, CA. (800) 747-0440.
Stackable modules customize image-processing board.

Mezzanine modules for the vendor's GriffinP100 PCI-bus image processor provide a digital camera interface, video input and output, DRAM expansion, and prototyping and debugging facilities. The GMI-NTSC-IN video input module converts NTSC or PAL video signals into a 16-bit Y/CR/CB or 24-bit RGB format and costs $895. The GMI-DCAM, which links 8-, 16-, and 32-bit digital cameras to the GriffinP100, sells for $1500. A video output module, the GMI-NTSC-OUT, costs $1495. The 32-Mbyte DRAM and 32-Mbyte synchronous DRAM boards cost $2795 and $3295, respectively. The GMI-CUSTOM for prototyping and the GMI-DEBUG module each cost $495. Ariel Corp, Cranbury, NJ. (609) 860-2900.

Debugging and analysis tool moves to Windows 95/NT.

The WindView system-visualization tool now comes in versions for Windows 95 and Windows NT PC platforms. With the Tornado development environment, WindView lets you view the dynamic behavior of embedded applications, including the complicated interaction among tasks, interrupt-service routines, and system objects. The diagnostic and analysis tool also helps identify lockouts and performance bottlenecks. WindView costs $5000 for the first user. Wind River Systems, Alameda, CA. (510) 748-4100.

PC/104 DAC module needs no tweaking.

☑ A 12-bit DAC module has no onboard potentiometers to adjust, yet achieves full specified performance on all of its eight channels. The PC/104-compliant board, designated the PCM-D/A12-8, uses four AD7237A DACPORTs, a dual 12-bit voltage-output DAC with output amplifiers and Zener voltage reference on the same chip. Output voltage ranges are 0 to +5V, 0 to +10V, and ±10V. The board lists for $395. A depopulated version with four channels costs $295. WinSystems Inc, Arlington, TX. (817) 274-7553.

Developers' kit gains Internet protocol products.

Additions to the Fusion TCP/IP Developer's Kit include an embedded Web-server program for controlling and managing devices that need a more graphical management interface than is available with Simple Network Management Protocol (SNMP). Three development boards for the Motorola 68360 and 68860 PowerPC and Intel 386 processors are also available with Fusion protocols, including Transfer Control Protocol, User Datagram Protocol, Internet Protocol, and others. The Fusion-embedded Web server costs $25,000 ($10,000 for the "light" version); developer boards cost $1895 each. Pacific Softworks, Camarillo, CA. (805) 484-2128.

Runtime kernel lets you program in IEC1131-3.

A scalable runtime version of the ISaGRAF kernel for embedded controllers executes IEC1131-3 language-based programs written with the ISaGRAF Workbench, a PLC programming environment that runs under Windows 3.1, NT, and 95. You can scale the microkernel, intended for 8- and 16-bit processors, to work in a 64-kbyte or smaller memory model for the reduced instruction set, or in
page mode or a medium memory model for the full instruction set. Prices for the ISaGRAF Workbench for Windows V3.04 start at $380. **Transys Inc**, Gilbert, AZ. (602) 926-4100.

**ISA bus SBC paves processor upgrade path.**

The TEK-AT4LVG comes equip-ped with an Intel 80486DX microprocessor, which you can upgrade to a Pentium Overdrive, Cyrix 5x86, or AMD 486 processor in either 5 or 3.3V versions. The ISA bus single-board computer (SBC) also offers as much as 4 Mbytes of flash EPROM, a 512-kbyte cache, SVGA video, serial and parallel ports, Fast SCSI II, and local-bus IDE. It supports both 30- and 72-pin DRAM SIMMs for a storage capacity of as much as 64 Mbytes. Entry-level prices start at $1019 without memory. **Teknor Industrial Computers Inc**, Boisbriand, PQ, Canada. (514) 437-5682.

**Operating system complies with Posix.**

V2.4 of the LynxOS operating system conforms with Posix.1b, which extends the Posix standard to include real-time features. The operating system also accommodates Posix.1c by providing the thread extensions that let you partition concurrent portions of your program into independent threads of execution. LynxOS is available for X86, Pentium, PowerPC, 680X0, and micro-SPARC processors. LynxOS, a development framework for embedded real-time applications, carries a suite of LynxOS development tools. Prices for PosixWorks start at $7995. **Lynx Real-Time Systems Inc**, San Jose, CA. (408) 879-3900.

**Software-verification environment doubles µP support.**

Device-specific processor probes and a configurable probe join the CodeTest family of software-verification tools. Using a customizable hardware interface, CodeTest's Universal Probe lets you monitor software for almost any embedded application, regardless of the processor. It works with multiplexed and nonmultiplexed buses at speeds as high as 66 MHz. Microprocessor-specific probes work with AMD's 80C186 and 80C188; Intel's 80C186EA, 80C188EA, and 80C186XL; and Motorola's 68060, 68030, 68020, 68EC000, 68HC000, 68LC302, and 68302. Probes range in price from $7800 to $9800. **Applied Microsystems Corp**, Redmond, WA. (206) 882-2000.

**Pentium SBC offers PMC, PCI, ISA, and VME-64 interfaces.**

Comprising a processor module and an I/O baseboard, the V254 gives you a choice of single or dual Pentium processors running at 133 or 150 MHz and the flexibility to upgrade to new Pentium, PowerPC, or Alpha designs. The processor module comes with two PMC slots and a PCI-bus interface to the I/O baseboard. Workstation I/O capabilities of the baseboard include ISA bus, VME-64, SCSI-2, IDE, floppy, serial, parallel, keyboard, 64-bit graphics, and automatic polling between 10BaseT and 100BaseT Ethernet channels. Prices start at $3995. **General Micro Systems**, Rancho Cucamonga, CA. (909) 980-4863.
RTOS bundle targets set-top boxes.

The vendor's pSET support package for the Integra set-top chip set from LSI Logic gives you software building blocks to speed the design of set-top boxes. The package comes with pSOSysterm, which includes the pSOS embedded real-time operating system (RTOS) for Integra's MiniRISC MIPS core, networking capabilities, and embedded drawing primitives. It also provides the BSP board-support package for the Integra 100 SDP development board, the pRISM integrated development environment, a source-level debugger, compilers, and linkers. List price for pSET is $23,000.


Simulator complies with PowerPC specifications.

A standard component of the GNU Pro Tool Kit for the PowerPC, the GNU Pro simulator handles >200 kbytes of instructions/sec and provides a virtual-device interface for simulating an embedded design. GNU Pro conforms to System v.4 ABI PowerPC to ensure compliance with industrywide standards. The simulator runs on HP 9000/700 (HPUX 9.05), i386 (DOS/Windows 3.1), PowerPC (AIX 4.1, 3.2.5), IBM RS/6000, and SPARC (Solaris 2.4, SunOS 4.1.4) platforms. **Cygnus Support**, Mountain View, CA. (415) 903-1400.

PC/104 acquisition boards extend temperature range.

Enhancements to the vendor's PC/104 family of data-acquisition boards allow them to operate over a temperature range of 0 to 70°C. The AIM16-1/104 is a 16-bit, 100-kHz analog input board, and the AIM12-1/104 is a 12-bit, 100-kHz version. Both boards provide 16 single-ended or eight differential analog inputs and 16 lines of digital I/O. The 16- and 12-bit boards are priced at $625 and $423, respectively. **Analogic Corp**, Peabody, MA. (508) 977-3000.