

## Code Composer Studio v2 Debuts

The Code Composer Studio v2 IDE accommodates large multisite, multiprocessor projects built around the TMS320C5000 and C6000 platforms. In addition, by allowing an external make file, the tool suite allows development across PCs and Unix workstations. With this version, engineers can not only debug mixed multiprocessor designs, but also use Real-Time Data Exchange capability to emulate 2 to 50 DSPs running at once. Also, the IDE's Update Advisor maintains all tools and drivers at the latest version, and CodeMaestro technology ensures that code and function calls are cor-



rect. Code Composer Studio v2 sells for \$2,995. [Texas Instruments Incorporated](#), Houston, Texas; (800) 477-8924, [www.dspvillage.ti.com/ccstudio1](http://www.dspvillage.ti.com/ccstudio1)

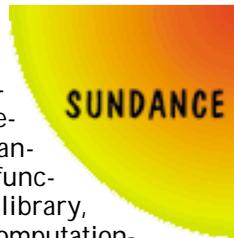
## Rapid Prototyper for Embedded Control Systems

The VisSim/TI C2000 Rapid Prototyper effects rapid prototyping of embedded controllers and filters for implementation on the TMS320C2000 DSP platform. It comes with VisSim PE, a block-diagram modeling, simulation, and code generation environment; VisSim/Fixed Point, which contains fixed-point blocks and design tools for simulating and generating code for scaled integer operations; and peripheral blocks that automatically generate code for several analog and digital I/O functions, including the CAN 2.0 bus. Also included are the C2000 Digital Motor Control Block Set and a VisSim-Code Composer Studio plug-in for automatically creating CCStudio projects. The prototyper is available for \$3,295 as part

of a kit that includes the Code Composer Studio IDE and TI's LF2407 eZdsp evaluation board. An academic version sells for \$795. [Visual Solutions Incorporated](#), Westford, Mass.; (800) 847-7461, [www.vissim.com](http://www.vissim.com)

## Math Library for TMS320C67x DSPs

The GD-200 Optimized Math Library for the TMS320C67x DSP generation is a collection of hand-coded and assembly-code-optimized functions and macros for computing elementary algebraic and transcendental functions. The library, which offers computational performance up to an order of magnitude better than the same functions written in C, is divided into sections of algebraic, trigonometric, inverse trigonometric, hyperbolic trigonometric, and inverse hyperbolic trigonometric functions. It's available for Texas Instruments' code generation tools and the Code Composer Studio IDE. The library sells for \$2,495 each in volume. [Sundance Digital Signal Processing Inc.](#), Reno, Nev.; (775) 827-3101, [www.sundance.com](http://www.sundance.com)



## Video Software Tailors TMS320C6000

Available for the TMS320C6000 DSP platform are software implementations of an H.263 encoder and H.263 and MPEG2 decoders. The H.263 encoder and decoder operate on low-bit-rate moving images, like those in videoconferencing, video surveillance, and Internet video. The MPEG2 decoder, intended for high-quality



images, targets set-top boxes, public video advertising, and digital television. Each of the packages sells for \$30,000, though the H.263 encoder and decoder sold together go for \$45,000. Both items are eXpressDSP-compliant [A.T.E.M.E., Bievres](#), France; +33 (01) 69 35 89 71, [www.ateme.com](http://www.ateme.com)

## Filter Design Tools Link to Other Aids

Version 2.1 of Filter Design Toolbox links through a graphical user interface to over a dozen DSP and communications system-level design and implementation tools, and in particular with Simulink, a system-level design tool. With this release, designers can export digital filter designs from the MATLAB-based toolbox into the Code Composer Studio IDE. The release also adds several filter design techniques. Pricing starts at \$1,000 for a single-user PC license. [The Mathworks, Inc.](#), Natick, Mass.; (617) 647-7000, [www.mathworks.com](http://www.mathworks.com)

## Vocoder Algorithms Meet Algorithm Standard

A quartet of highly optimized proprietary vocoder algorithms that span 1,200 to 5,400 b/s run on the TMS320C54x DSP and enjoy eXpressDSP compliance. The 1,200- and 2,400-b/s versions combine the classic linear predictive coding and mixed-multiband excitation models. The 4,800- and 5,400-b/s versions use proprietary code-excited linear prediction algorithms. Lic-

enses, available for both object and source code, start at \$45,000 for the low-bit-rate vocoders. **SPiRiT Corp.**, Moscow; +7 (095) 912-7024, [www.spiritcorp.com](http://www.spiritcorp.com)

## Emulator Puts DSP Boards in Touch with PCs

For doing system-level integration and debugging, the Blackhawk



USB-JTAG emulator links a USB-equipped PC to a target DSP system

through the system's JTAG interface connector. Fully compatible with the TMS320 DSP family as well as with the Code Composer Studio IDE, the 5.5- x 2.6- x 1.1-in. emulator costs \$1,995. **Electronic Warfare Associates, Inc.**, Herndon, Va.; (877) 983-4514, [www.blackhawk-dsp.com](http://www.blackhawk-dsp.com)

## BSP Focuses on TMS320DSC21

The DSC21 Board Support Package for the TMS320DSC21 DSP includes an optimized open-source Linux kernel; an appliance simulator; a standard GNU tool suite; and drivers for an on-screen display and UART, CompactFlash, and USB ports; as well as other system-on-chip periph-

erals. Loaded onto a desktop PC, the simulator runs DSPLinux within a simulated embedded device. Among the tools in the GNU suite are a compiler, assembler, debugger, linker, standard C



library, and utility programs. License fees range from \$25,000 to \$100,000, depending on the target, and include 30 days of installation and configuration help. **RidgeRun, Inc.**, Boise, Idaho; (208) 331-2226, [www.ridgerun.com](http://www.ridgerun.com)

## Daughterboard Adds Fast Analog I/O to DSP Kits

The SW6x100, first in the SpectrumWizard line of daughter-




**imagine**  
TECHNOLOGY, LLC

As an official third party vendor of Texas Instruments, Imagine Technology offers tested and approved algorithms for a wide range of DSP based processors, which are eXpressDSP™ compliant.

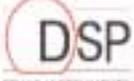
The MP3 algorithm provides MPEG-1 and MPEG-2 audio encoding and decoding for layer 3 streams and supports all standard sampling rates for the following Texas Instruments DSP generations.

TMS320C54™ DSP  
TMS320C55™ DSP  
TMS320C62™ DSP  
TMS320C64™ DSP  
TMS320C67™ DSP

**Available Algorithms**

- Acoustic Echo Canceller
- G.165-T68 Echo Canceller
- G.711/726 Encoder/Decoder
- DTMF Generator/Decoder
- Call Progress Detector
- BPSK Modem
- Consultational Encoder
- DES & Triple DES Encryption

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TEXAS INSTRUMENTS



### Audio4-5410

Portable DSP Data Acquisition

- 4 Input+4 Output audio channels
- 16 bit AD/DA 8 kHz to 48 kHz
- High-speed USB Interface
- Real Time Code Composer Studio™ support
- 100 MHz TMS32VC5410 with 128 Kwords external FLASH
- VAB5000/RIDE compatible



### SB-USB

Universal DSP Emulator with USB Interface

- Supported devices: C54xx, C62xx, C67xx
- Drivers for Code Composer Studio™
- 12 MHz USB interface
- Powered from USB bus



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[www.domaintec.com](http://www.domaintec.com)



boards, adds a high-performance analog interface to TMS320C62x and C67x DSP Starter Kits and Evaluation Modules. The daughter-board combines two Spartan II FPGAs—a total of 200,000 gates—with dual 12-bit 50-megasample/s analog inputs and dual 12-bit 100-megasample/s analog outputs. Also included are a direct digital synthesizer, flash memory, and byte-configurable digital I/O and RS-232 ports. The board is part of a kit that includes DSP software drivers, documentation, and a project example. It's priced at \$1,495. [Southwest Software & Systems LLC](#), Scottsdale, Ariz.; (602) 595-0099, [www.southwestsoftware.com](#)

## 16-Channel Software Radio Module Features Configurable FPGA

A 16-channel digital receiver and A/D VIM-2 (Velocity Interface Mezzanine) module, the Model 6231 couples FPGA technology with channelized software radio functions. The general-purpose narrow-



band digital receiver attaches to the company's VIM-compatible quad TMS-

320C6000 DSP or quad GPP boards, connecting directly to two of the four processors. Its FPGA facilitates low-level preprocessing tasks, allowing the DSPs to handle various high-level chores. An optional front-panel connector provides 24 user-definable I/O signals to the FPGA, which can also be configured by the user to implement custom functions.

The module accepts two wide-band analog inputs to support direct IF bandpass sampling at up to 90 MHz and also handles baseband sampling of HF inputs of up to 35

MHz. Each of the two inputs is digitized by a 14-bit A/D converter sampling at 65 or 80 MHz. Each channel delivers output bandwidths programmable from 4 kHz to 2 MHz and independent center frequency tuning from dc to 40 MHz. Prices for the Model 6231 start at \$7,495. [Pentek, Inc.](#), Upper Saddle River, N.J.; (201) 818-5900, [www.pentek.com](#)

## DSP Board Takes 25 Msamples/s

The AVR-32 signal-processing and data acquisition board for the PCI bus, powered by a 60-MHz, 60-MFLOPS TMS320C32 DSP and a Xilinx Virtex FPGA, has been upgraded to process 25 megasamples/s. The high-density FPGA can be configured as, among other things, a digital filter or a specialized high-speed processor with local bus-mastering capability. In addition, the digital data output can be configured as an IDE interface for gathering data directly to disk. The AVR-32 sells for \$995 each in single quantities. [Dalanco Spry](#), Rochester, N.Y.; (716) 473-3610, [www.dalanco.com](#)

## Dynamically Reprogrammable Receiver Touts High Density

A software-defined receiver subsystem on a VME board, the HCDR-VME monitors up to 32 narrowband or 8 wideband channels and can be fully reconfigured in software either over the air or across a network. Geared for government or commercial applications, the board carries an enhanced PCI mezzanine card bearing a proprietary communications processor that moves data among processors and daughter cards in real time. It offers floating- or fixed-point processing, the latter through a TMS320C6000 DSP. The



HCDR-VME ranges in price from \$21,500 to \$45,000, depending on the specific configuration and volume. [Spectrum Signal Processing Inc.](#), Burnaby, B.C.; (604) 421-5422, [www.spectrumsignal.com](#)

## Modules Expand DSKs' I/O Possibilities

Three expansion modules add I/O flexibility to the TMS320C5x and C6x DSP Starter Kits. Gemini, a dual-DSK carrier, connects two DSPs through dual-port RAM; Jet Pack, a dual IndustryPack carrier, enables DSKs to use a wide range of inexpensive I/O modules from multiple vendors; and Rocket Sled, a PCI carrier for DSKs, provides a high-speed DSP-host data path through dual-port RAM. All three mate to the DSK peripheral expansion bus, with Gemini offering pass-through headers for daughtercard stacking. Pricing is to be determined. [Electric Sand](#), Poway, Calif.; (858) 485-1328, [www.electricsand.com](#)

## New Phone Number

The telephone number given for Irvine Compiler Corporation in "Ada Suite Teams Up with TI DSP's for Military Service" in the June issue (page 31) has changed and no longer works. The new number is (949) 609-4650.