

1180 McDermott Dr • West Chester, PA 19380-4022

Tel: (610) 692-9526 • Toll-free: (800) 367-6735 • Fax: (610) 436-8258 • <http://www.cacdsp.com> • Email: [sales@cacdsp.com](mailto:sales@cacdsp.com)



**Communication  
Automation  
Corporation**

#### Editorial Contacts:

CAC Corporation  
Jim Bridges  
(610) 776-6669  
[jim@cacdsp.com](mailto:jim@cacdsp.com)

Davis Marrin Communications  
Emily Grant  
(858) 573-0736  
[emily@davismarrin.com](mailto:emily@davismarrin.com)

## **Communication Automation Corp. Announces Industry's Highest Density Hot-Swappable VMEbus Board**

### **10,000-MIPS Board Combines 96 DSP Cores With A Choice OF OC3 ATM Or 10/100BT Ethernet Interfaces**

West Chester, PA. May 1, 2001 – Communication Automation Corp (CAC) today announced the industry's highest density hot-swappable VMEbus DSP board. Dubbed the 6QH5420, the new board combines 96 DSP cores with a pair of RISC (MIPS) processors, giving it a peak performance of more than 10,000 MIPS. The 6QH5420 features 144 Mbytes of shared SDRAM memory, 32 Mbytes of flash memory, and a choice of either OC3-ATM or 10/100BT Ethernet interfaces. The 6QH5420 also features a SCSA bus (H.110 subset) computer telephony interface, which enables it to communicate with other telephony boards over the VMEbus backplane without interfering with VMEbus system bus transfers.

The 6QH5420 is the latest addition to CAC's QuickKit line of computer telephony boards. All QuickKit boards employ a modular architecture that combines a generic baseboard with multiple small mezzanine PCI (smPCI™) modules. The baseboard provides core functionality that is shared across all computer telephony configurations, including the VMEbus and SCSA interfaces, TDM fabric, PCI local bus, main memory, flash memory, and MIPS controller. The smPCI modules house the DSPs, RISC protocol processing engine, LAN/WAN interfaces, associated memory, and other I/O options.

"The QuickKit modular concept makes it easy for us to customize the 6QH5420 for a broad range of telecommunications and computer telephony applications," said Keith Reeves, CAC's Director of Technical Sales. "By mixing and matching smPCI modules from our library, we can create scaleable custom boards with a variety of processor, I/O LAN and WAN interfaces options, typically within two weeks."

- more -

The 6QH5420 is a single-slot VME64x bus master/slave board that can be populated with up to 48 Texas Instruments TMS320VC5420 digital signal processors. Each DSP provides two 100-MIPS cores, for a total of 96 cores and a peak performance of almost 10,000 MIPS (one billion instructions per second). The DSPs are packaged as small PCI (smPCI) modules, each containing 12 DSP chips, or 24 cores. Each core is equipped with 100 kwords of internal memory. The module also provides 8 Mbytes of SDRAM, shared among the 24 cores and accessible from the PCI bus. The DSPs on each module (and across multiple modules) are linked via the PCI bus as well as TDM (time division multiplexed) serial buses. The TDM buses enable them to acquire data directly from the board's TDM-based SCSA interface as well as optional T1/E1 smPCI modules.

The 6QH5420 features a pair of RISC processors. The 100-MHz MIPS IDT RC32364 baseboard controller, equipped with 32 Mbytes of DRAM, also provides 32 Mbytes of flash memory for self-booting and standalone operation. The 350-MHz PMC-Sierra RM7000 MIPS engine, packaged as an smPCI module, provides a peak performance of 700 MIPS. Equipped with 256 kbytes of L2 cache and 64 Mbytes of SDRAM, this module is ideal for processing protocol stacks and routing data.

The 6QH5420 can be customized with a variety of high-performance LAN and WAN interfaces. LAN support includes a 10/100BT interface, accessed via a front panel RJ45 connector. WAN support includes a 155-Mbps OC3 ATM interface, which is accessed via a front panel SC-style fiber optic connector. Ethernet protocol processing can be handled by either the RC32364 or by the RM7000 processor. ATM AAL3/4 and AAL5 processing is handled largely by the ATM smPCI module. AAL1 and AAL2 processing is handled by the MIPS processor and DSPs.

The 6QH5420 is hot-swappable, enabling it to be inserted and removed from a live-powered backplane without risk of hardware damage or interference with other VMEbus activity. The baseboard also provides extensive power-on self-test. Software support includes Solaris and VxWorks host drivers, diagnostics and demo programs. The embedded MIPS processors run the public-domain RTEMS real-time operating system.

Single unit pricing for the 6QH5420 ranges from \$16,300 (48 DSPs) to \$24,300 (96 DSPs).

For additional information on this product line, please contact Communication Automation & Control, Inc. Phone (800) 367-6735 or (610) 776-6669. Fax (610) 770-1232. Web [www.cacdsp.com](http://www.cacdsp.com). Email: [sales@cacdsp.com](mailto:sales@cacdsp.com).

###