

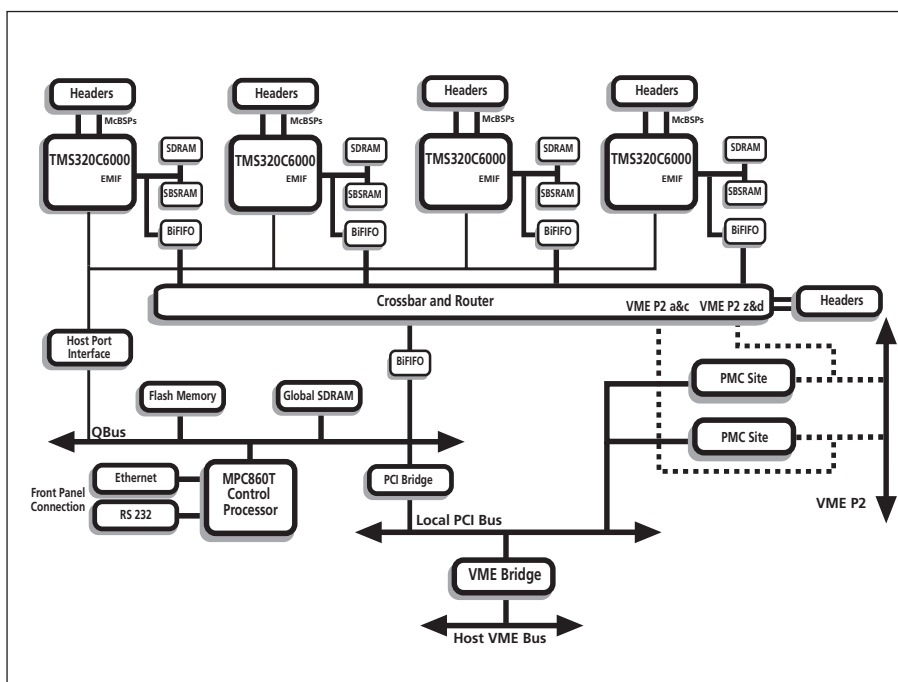
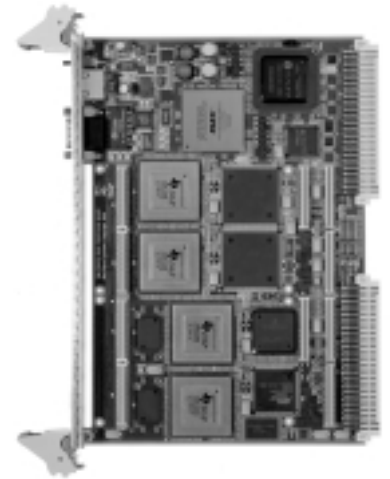
Combining flexibility with outstanding performance, VME/C6420 is a state-of-the-art signal processing solution that complements Blue Wave Systems' range of DSP boards based around Texas Instruments' C6000 device. Blue Wave has integrated four TMS320C6201 (fixed-point) or TMS320C6701 (floating-point) DSPs with a Motorola MPC860T PowerQUICC™ control processor, extensive memory resources and a range of expansion options with a high speed multi-port crossbar to make VME/C6420 an extremely powerful and versatile board.

VME/C6420 is particularly directed at wireless, 3G/wideband cellular and general array processing applications. The board can easily cope with the high bandwidth demands placed upon it by applications such as beam forming and direction finding with smart antennas, thanks to its advanced, crossbar-based architecture.

At the heart of VME/C6420's optimized architecture lies the crossbar, efficiently controlling data flow both on and off-board. Up to four 200M bytes/sec, simultaneous point-to-point links can be set up dynamically, connecting together the DSPs, control processor, PMC sites and VMEbus interfaces. Additionally, two expansion ports and two VME P2 interfaces provide the crossbar with a simple and fast connection to custom I/O. A library of C callable functions is provided with the VME/C6420 support software to simplify crossbar operation, performing data transfer functions, and including a broadcast facility that creates a link to several resources at one time.

The four C6000 DSPs on VME/C6420 provide an outstanding peak processing capability of 6400 MIPS (fixed-point)/4 GFLOPS (floating-point). Each processor node has exclusive access to 16M bytes SDRAM and 512K bytes SBSRAM via the C6000 External Memory Interface (EMIF).

A Motorola MPC860T PowerQUICC processor is included for real-time on-board control, signaling and data management. The MPC860T has direct access to 4M bytes Flash Memory for embedded code and data storage. Additionally, a bank of up to



- Four Texas Instruments C6201 or C6701 DSPs offering up to 6400 MIPS/4 GFLOPS performance
- 1G byte/sec, dynamically reconfigurable crossbar
- Motorola MPC860T PowerQUICC™ processor for on-board control, signaling and data management
- VME64 master/slave interface
- Two industry standard PMC sites



DSPs	■	Four 200 MHz TMS320C6201/167 MHz TMS320C6701 DSPs providing 6400 MIPS/4 GFLOPS peak performance
Crossbar	■	Multi-port, 32 bit crossbar providing four simultaneous 200M bytes/sec point-to-point links. Two additional crossbar connections are brought out to headers on the surface of the board, providing an alternative high bandwidth data route to the PCI bus Broadcast facility enables data transfer to some or all crossbar resources at one time
DSP Memory	■	16M bytes SDRAM and 512K bytes SBSRAM per DSP
Serial Ports	■	The serial ports of the four DSPs and the control processor are brought out to on-board headers
VME Interface	■	VME64 master/slave interface using a Tundra Universe II bridge device
VME P2	■	Switchable option enables the on-board crossbar or the user defined PMC site connector (Jn4) to access the VME P2 interface
Control Processor	■	50 MHz Motorola MPC860T PowerQUICC processor on-board for control, signaling and data management. The processor has access to 4M bytes Flash Memory
Global Memory	■	16M bytes global SDRAM shared between the DSPs, control processor and I/O resources
PMC Sites	■	Two single width, IEEE 1386.1 compliant PMC sites
Ethernet	■	100 Base-T Ethernet interface creating a high performance link to a standard Local Area Network
Warranty	■	VME/C6420 comes with a 12 month worldwide warranty from the date of invoice
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Support Software	■	VME/C6420 includes host communication software for data transfer as well as MPC860T and C6000 support libraries, drivers and a boot loader. A range of operating systems, such as Windows NT and VxWorks are supported
Development Tools	■	ANSI C compiler, Assembler/Linker/Simulator and Code Composer Studio integrated development environment from Texas Instruments for C6000 application development. VxWorks Tornado for the MPC860T control processor
Real Time Operating Systems	■	Virtuoso from Eonic Systems available for the C6000 DSPs. The MPC860T is supported by VxWorks

16M bytes global SDRAM is shared between the DSPs, control processor and I/O resources.

Functionality is further enhanced by two industry standard PMC sites providing access to analog and digital I/O, serial and network interfaces and additional processors, as well as inter-board connection in the form of RACEway and FPDP (Front Panel Data Port).

For application development, Blue Wave provides extensive support software, combining industry leading packages from Texas Instruments (C6000 development tools and the Code Composer Studio integrated development environment), with Blue Wave's own support package. This includes host communication software, support libraries and a VxWorks board support package for the MPC860T control processor, a Flash Memory programming utility, device drivers and a suite of DSP software to simplify board-level programming.

Ordering Information

Please contact your Blue Wave Systems sales office/distributor.

Blue Wave Systems Inc
2410 Luna Road
Carrollton, TX 75006
Tel: (972) 277 4600, Fax: (972) 277 4666
Toll Free: (800) 635 0200
e-mail: ussales@bluews.com

Blue Wave Systems Ltd
Loughborough Park, Ashby Road
Loughborough, Leicestershire, LE11 3NE
Tel: +44 (0) 1509 634300, Fax: +44 (0) 1509 634333
e-mail: uksales@bluews.com

www.bluews.com