Embedded 68040/68060 Slot-0 Controller

A powerful real-time computer in a VXI controller

V150

Features

- **Single-width, C-size Slot-0 controller**
- **Powerful 68040 or 68060 embedded processor (The 68060 performs arithmetic operations at 90 MIPS, compared with 10 MIPS for a 68030 operating at 25 MHz)**
- **VxWorks™ operating environment for powerful real-time computing**
- **Ideal for high-performance data acquisition and control**
- **Forms an I/O controller for Reality®-based systems**
- **Include Ethernet, two 1 Mbit/sec serial ports, real-time clock, timers and counters**
- **Optional high-performance fast/wide SCSI channel and IEEE 488 interface**

Typical Applications

- **Aerospace and aircraft testing**
- **Distributed control systems for high energy physics**
- **High-performance ATE**
- **High-performance data acquisition and control**
- **Applications requiring a real-time kernel**

General Description

The V150 is a single-width, C-size, VXIbus module that combines the power of a 68040- or 68060-based computer with the functionality of a VXI Slot-0 controller. On-board strap options enable this module to be used as a VXI-based processor in non-Slot-0 applications.

Using the VxWorks™ run-time kernel, the V150 provides an extremely powerful real-time computing environment. In most applications this controller is connected to a host computer via an Ethernet link and uses TCP/IP protocol and VxWorks to communicate with a host computer running a UNIX™, Windows™ or OpenVMS™ operating system.
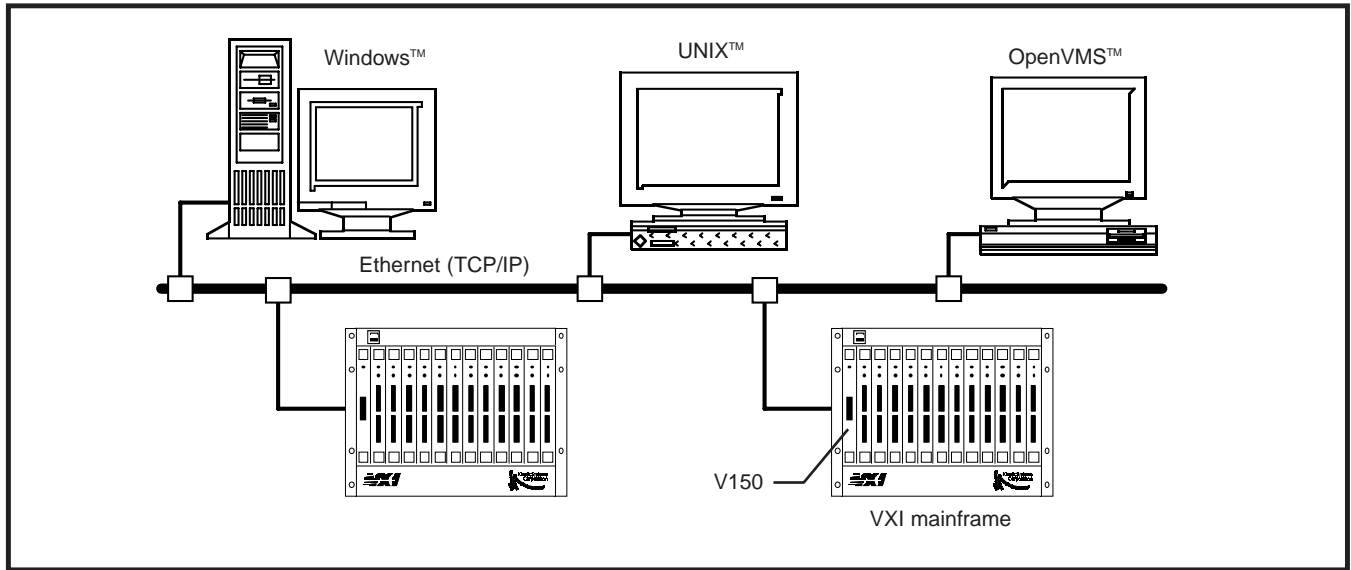
The V150 is an ideal real-time embedded controller for ATE as well as for data acquisition and control systems such as those using our Reality® software package (See Page 429 for a discussion of Reality.).

VxWorks supports a wide range of industry standards such as POSIX, ANSI C and ISO networking protocols. Providing strong interoperability, VxWorks integrates these standards with a set of tools specifically designed to meet the requirements of the real-time developer. Note that the Model AL50 VxWorks Board Support Package and the Model AS12 VxWorks OS Runtime License are required for operation under the VxWorks Operating System.

Wind River Systems' VxWorks integrated cross-development environment offers a high-performance operating system with sophisticated networking facilities and a complete set of cross-development tools specifically designed to work with the most popular computer platforms.
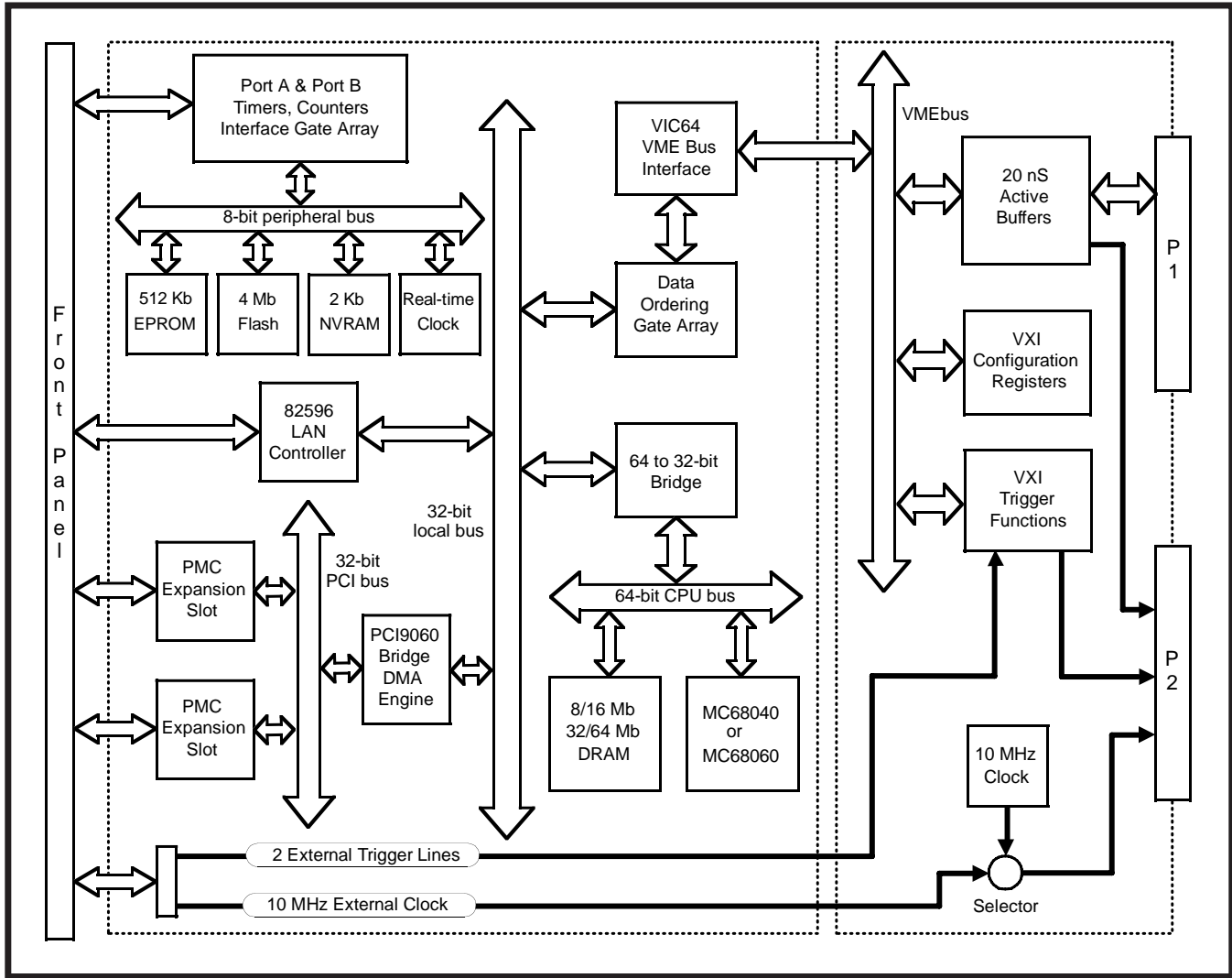
Phone: (815) 838-0005 • FAX: (815) 838-4424 • E-mail: mkt-info@kscorp.com • Web: http://www.kscorp.com   KineticSystems

A Host-target Configuration using the V150

Item	Specification
Processor	33 MHz 68040 or 50 MHz 68060
DRAM	Options available with 8, 16, 32 or 64 Mbyte DRAM
EPROM	Supports up to 512 Kbyte EPROM
Flash Memory	Supports 1 or 4 Mbytes of flash memory
Counter/Timers	Real-time clock with 10 ms resolution; three 32-bit counter/timers with 62.5 ns resolution
Ethernet	Front-panel IEEE-802.3 interface; 800 kbyte/s throughput can be obtained with TCP/IP protocol.
Serial Ports	Two front-panel serial ports with transfer rates to 1 Mbit/s (cable-length dependent)
VXI Interface	Provides Slot-0 Controller functionality; forms a processor-based module with Slot-0 features disabled; includes DMA capability; supports 8, 16 and 32-bit VXI transfers
10 MHz Clock	10 MHz internal clock per VXI specification; the 10 MHz clock also can be sourced via a front-panel connector; includes a programmable clock derived from the 10 MHz clock to drive the TTL trigger lines
Trigger Lines	Sources/monitors 8 TTL, 2 ECL trigger lines; a front-panel connector is provided to interface with 2 trigger lines.
PMC Plug-in Options	Up to two PCI Mezzanine Card (PMC) options with front-panel access. Current options include: • Fast/wide SCSI interface with 20 Mbyte/s 16-bit synchronous performance • IEEE 488 Interface

Environmental and Mechanical
   Temperature range
      Operational
      Storage
   Relative humidity
   Cooling requirements
   Dimensions
   Front-panel potential
	
	0°C to 50°C
	-25°C to +75°C
	0 to 85%, non-condensing, to 40°C
	10 CFM
	340 mm x 233.35 mm x 30.48 mm (C-size VXIbus)
	Chassis ground

V150 Block Diagram

Ordering Information

Model V150-AC61 Embedded 68060 Slot-0 Controller, 32 Mbyte DRAM
Model V150-AD61 Embedded 68060 Slot-0 Controller, 64 Mbyte DRAM

Model V150-0001 PMC Based - Fast/wide SCSI II Controller Option
Model V150-0002 PMC based IEEE-488 Interface Option

Model V150-0104 4MB Flash Memory Option - Factory Build Only

Model AL50 VxWorks Board Support Package *(required for the VxWorks OS)*
Model AS12 VxWorks OS Runtime License *(required for the VxWorks OS)*

Related Products

Model AA11 Reality Data Acquisition and Control Software

Various disk drives, tape drives and other accessories are available for the V150. Contact the factory for details.