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Find the *DynamicSignals / Kinetic Systems V160-AA12* at our website: *Click HERE*

V160

Interconnect VXI Slot-0 Controller

The Grand Interconnect connects multiple I/O chassis to a host computer, providing a high-throughput, deterministic data acquisition and control system.



Part of the high-throughput, low-latency Grand Interconnect

TYPICAL APPLICATIONS

Jet aircraft engine test cells

Rocket engine test cells

Missile testing

Wind tunnel data acquisition and control

Aerospace testing

Nuclear accelerator control and monitoring

High-performance ATE

Multi-mainframe VXIbus systems

Distributed VXIbus systems

Systems requiring galvanic isolation

FEATURES

- Provides a VXIbus interface for the Interconnect Highway
- Up to 126 controllers per Interconnect network
- Provides full VXI Slot-0 functionality
- Provides full throughput with a 2 km maximum distance between fiber-optic nodes
- Provides up to 10 Mbyte/s highway throughput
- Includes a high-speed command processor
- Supports buffer memory options
- TTL Trigger Expansion

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GENERAL DESCRIPTION

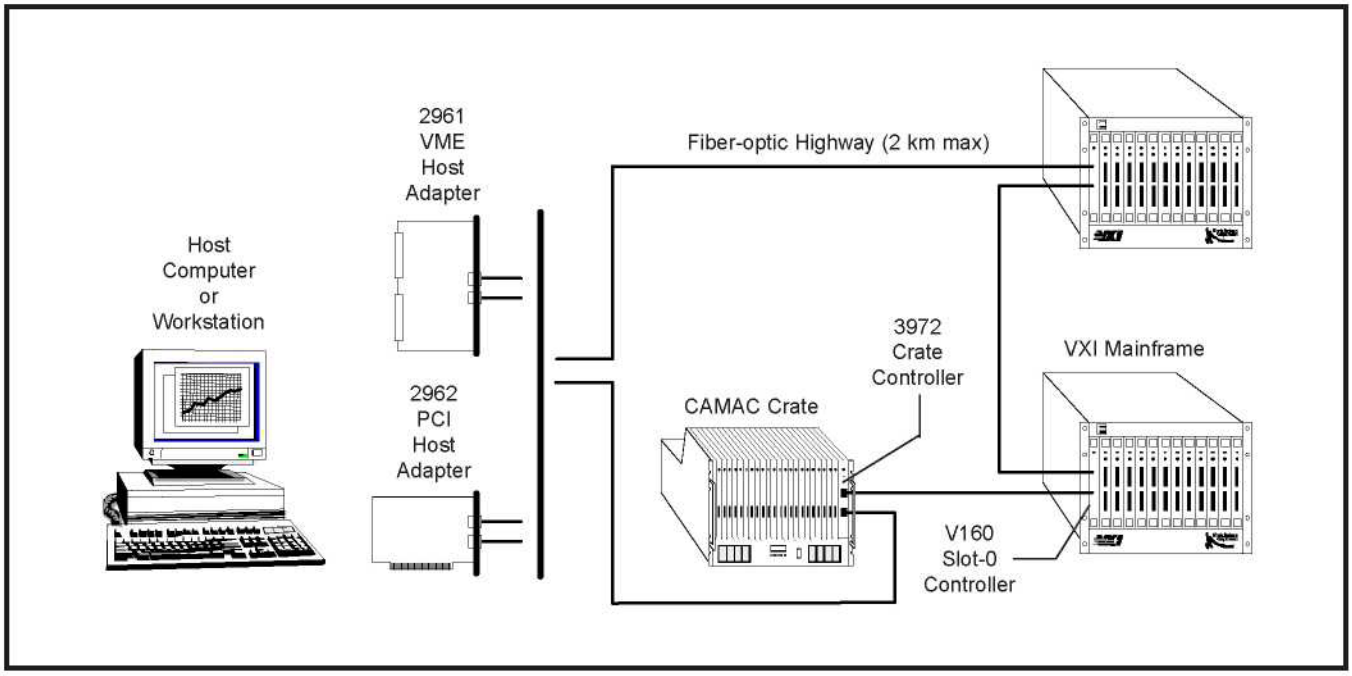
The Grand Interconnect connects multiple I/O chassis to a host computer, providing a high-throughput, deterministic data acquisition and control system. A complete Grand Interconnect system includes an Interconnect Host Adapter (IHA), up to 126 I/O nodes that may include VXI Slot-0 controllers and/or CAMAC (IEEE 583) crate controllers, and a fiber-optic highway. The system supports distances between nodes up to 2 km (6560 ft).

The V160 is a single-width, C-size, VXIbus controller that interfaces the Interconnect Highway to a VXI chassis. It is a slave device on the highway and receives its commands from an Interconnect Host Adapter. This module meets all the requirements of a VXIbus Slot-0 controller, including a MODID register for geographic addressing, a "CLK10" 10 MHz source, TTL/ECL trigger functions, and VXI interrupt handling. Interrupts generated in the VXI chassis are acknowledged by the V160, causing a demand message to be transmitted over the highway to notify the host.

The V160 communicates with the VXIbus using A32, A24, or A16 addressing modes as well as D32, D16, or D08 (EO) data transfers. All access via VXIbus is performed using register-based commands. This module includes a 16 MHz clock driver, a data transfer bus priority arbiter, and an interrupt handler.

List processing is included to allow the V160 to execute a sequence of preloaded write or read commands to selected VXI module registers. The list can be triggered by a software command from the Interconnect Host Adapter (IHA); an internal, crystal-controlled, programmable counter/timer; an externally supplied trigger source; a preselected interrupt; or a TTL/ECL trigger line. During setup the list is downloaded over the highway. Once execution begins, data received from VXIbus read operations is stored in a 2 kbyte FIFO memory for transmission to the host computer. For applications that require more than 2 kbytes of storage for timer-initiated lists, a 4 Mbyte buffer memory option (V160-wB22) is available. For VXIbus write operations, data may be embedded in the list or extracted from a FIFO memory.

The Interconnect Host Adapter also contains a list processor. Its list memory can be used for all I/O transfers. With this approach, both the I/O register addresses and the data must be transmitted over the highway which reduces overall throughput. However, a high-performance list operation for a multi-chassis system can be obtained by using an instruction in the IHA's list processor to transfer a block of read or write data for all operations in a chassis; then the list processor in each V160 can select the sequence of I/O registers to be read or written. This causes only data to be transmitted over the highway, resulting in maximum I/O throughput. The full 10 Mbyte/s data throughput can be achieved by the V160, limited only by the IHA and VXI module transfer capabilities. The I/O list can be driven by a programmable timer with rates ranging from less than 0.06 Hz to 500 kHz.



Grand Interconnect Configuration Options with CAMAC and/or VXI I/O

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ITEM	SPECIFICATION		
Connectors			
Fiber Optic (Hwy In and Hwy Out)	ST-Type Connectors		
Serial Port (Test interface)	9P "D"		
Clock I/O	SMB (V160-Axyz)		
Trigger I/O	SMB (V160-Axyz)		
Trigger Out (A and B)	SMB (V160-Axyz)		
Inhibit	SMB (V160-Axyz)		
Execute List	SMB (V160-Axyz)		
Trigger Expansion	26 Position High Density Connector (V160-Bxyz)		
Backup	5.54 mm Power Connector		
Power Requirements	**+5 V**	**-5.2 V**	**-2 V**
AA1z	6.7 A	250 mA	250 mA
AByz	8.5 A	250 mA	250 mA
BA1z	7.0 A	250 mA	250 mA
BByz	8.8 A	250 mA	250 mA
Environmental and Mechanical			
Temperature range			
Operational	0°C to 50°C		
Storage	-25°C to +75°C		
Relative humidity	0 to 85%, non-condensing, to 40°C		
Cooling requirements	10CFM		
Dimensions	340 mm x 233.35 mm x 30.48 mm (C-size VXIbus)		
Front-panel potential	Chassis ground		

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RELATED PRODUCTS

Model 2961	VME Interconnect Host Adapter
Model 2962	PCI Interconnect Host Adapter
Model 3972	Interconnect CAMAC Crate Controller
Model 5802-Lxyz	Cable—50 µm Fiber-optic
Model 5802-Nxyz	Cable—62.5 µm Fiber-optic
Model 5856-Bxyz	Cable—9S "D" to Unterminated
Model 5919-Z1A	Connector—SMB Cable-type
Model 5930-Z1A	Connector—9S "D"

ORDERING INFORMATION

MODEL	DESCRIPTION
V160-AA13	Interconnect VXI Slot-0 Controller
V160-AB23	Interconnect VXI Slot-0 Controller with 4 Mbyte Memory
V160-BA13	Interconnect VXI Slot-0 Controller with Trigger Line Interface
V160-BB23	Interconnect VXI Slot-0 Controller with 4 Mbyte Memory and Trigger Line Interface
V160-0001	4 Mbyte Memory Factory Upgrade

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