

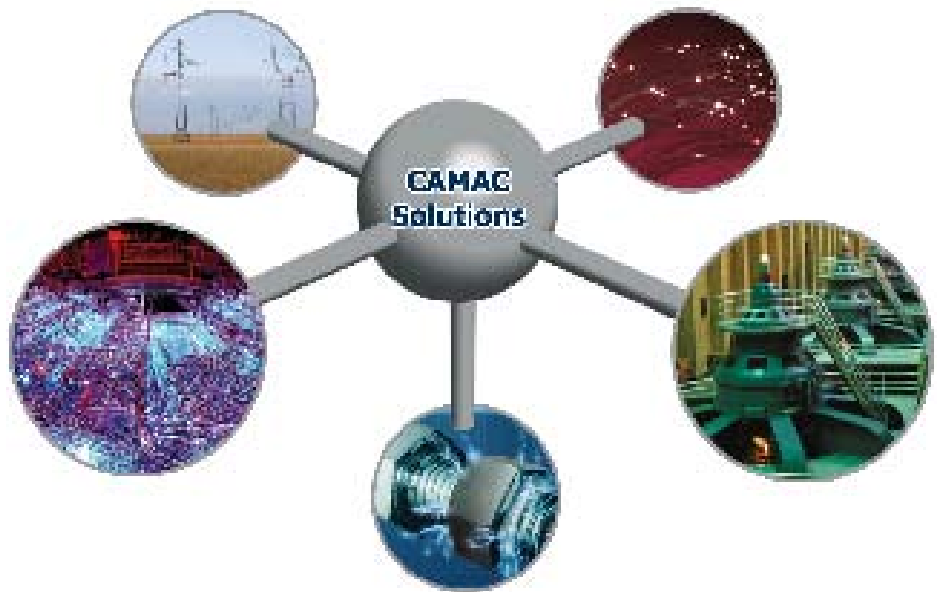
## CAMAC Equipment

CAMAC, Computer Automated Measurement And Control, is an IEEE-standard (583), modular, high-performance, realtime data acquisition and control system concept.

Since 1969, CAMAC has been used in many thousands of scientific, industrial, aerospace, and defense test systems around the world.

# 2962

## PCibus Grand Interconnect Highway Driver



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

### FEATURES

- Provides a PCI interface for the Interconnect Highway
- Can be used with any combination of VXI or CAMAC chassis
- Provides access to 126 nodes
- Uses fiber-optic highway transmission
- Provides full throughput with a 2 km maximum distance between fiber-optic nodes
- Exhibits 10 Mbyte/s highway throughput and 20 Mbyte/s PCI DMA burst
- Includes a high-speed command processor
- Includes multi-buffer functionality



### GENERAL DESCRIPTION

The Grand Interconnect (GI) connects multiple I/O chassis to a host computer, providing a high-throughput, deterministic data acquisition and control system. A complete GI system includes an Interconnect Highway Driver (IHD), 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 2962 Interconnect Highway Driver is a single PCI (Peripheral Component Interface) card which provides the interface between the PCI bus and the Interconnect Highway. Communication between this IHD and the host computer is via a 32-bit data path that is used to configure the system and initiate highway operations. A DMA (direct memory access) mechanism is incorporated to transfer data over the Interconnect Highway using 32-bit data transfers. The 2962 IHD supports PCI DMA transfers, yielding a 15 Mbyte/s burst transfer rate.

Data transfers to and from a VXI or CAMAC chassis are always executed in a pipeline mode. These transfers will occur at full highway speed if both the source and destination can maintain the data rate. This transfer rate for the 2962 is 10 Mbyte/s over the interconnect highway. When transferring data to and from a CAMAC chassis, the 2962 provides the Q-Ignore, Q-Stop, Q-Repeat, and Q-Scan modes of operation.

The 2962 contains a 2048-word FIFO memory that stores asynchronous demand messages received from an Interconnect controller. These demand messages are generated from an interrupt in a VXI chassis or from a LAM (Look-At-Me) in a CAMAC chassis. The demand data identifies the chassis that sourced the demand message as well as the source of the interrupt or LAM within that chassis.

The Interconnect Highway Driver includes a command processor to execute a preloaded list of Interconnect operations. This list of operations is read from a 32K x 32 RAM memory and then executed. Command processing may be initiated by software control or by an internal, crystal-controlled, programmable counter/timer. The timer provides for the selection of triggering rates from 0.06 Hz to 500 kHz in 1 µs increments. Multi-rate data acquisition can be accomplished by including inner and outer loops in the command list. These loops can be nested to 16 levels. The 2962 uses host computer memory to implement multi-buffer functionality. The multi-buffer activity includes DMA data chaining and the setting of buffer segment flags.

### ACCESSORIES

- Model V160-Xxxx --Interconnect VXI Slot-0 Controller
- Model 3972-Zxx --Interconnect CAMAC Crate Controller
- Model 5802-Lxxx Cable--50 µm Fiber-optic
- Model 5802-Nxxx Cable--62.5 µm Fiber-optic
- Model 5857-Axyz Cable--1-contact LEMO to Unterminated
- Model 5857-Bxyz Cable--1-contact LEMO to 1-contact LEMO
- Model 5857-Hxyz Cable--1-contact LEMO to BNC shielded
- Model 5910-Z1A Connector--1-contact LEMO

### ORDERING INFORMATION

MODEL	DESCRIPTION
2962-Z2A	PCI Interconnect Highway Driver

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