

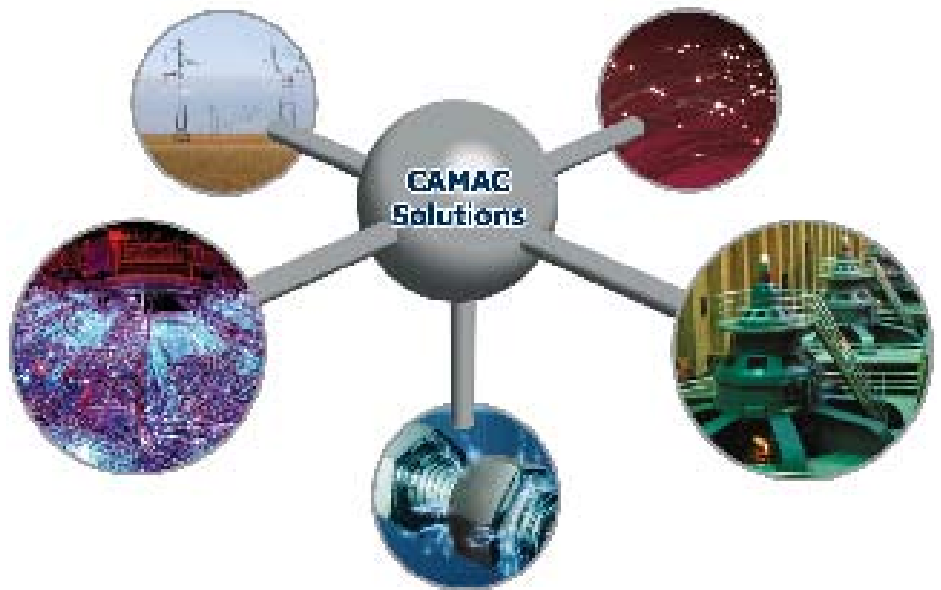
CAMAC Equipment

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.

3972

Grand Interconnect CAMAC Crate Controller



The model 3972 is a double-width CAMAC crate controller that functions as an interface between the CAMAC Dataway and the fiber-optic Grand Interconnect (GI) Highway.

FEATURES

- Interfaces the fiber-optic Interconnect Highway to CAMAC
- Exhibits 10 Mbyte/s Interconnect Highway speed
- Provides full throughput with a 2 km maximum distance between fiber-optic nodes
- 32K x 32 command memory
- External or programmable internal command memory trigger
- Multi-buffer read-data RAM (1 or 4 Mbyte options)
- 24-bit LAM mask
- Priority encoded LAM triggers of command list
- Dataway short cycles to increase data throughput
- Multi-rate data collection
- Battery back-up option
- Main or Auxiliary Controller operation

GENERAL DESCRIPTION

The model 3972 is a double-width CAMAC crate controller that functions as an interface between the CAMAC Dataway and the fiber-optic Grand Interconnect (GI) Highway. The GI allows for up to 126 nodes and may include V160 Slot-0 VXI controllers and other 3972 CAMAC crate controllers. The maximum distance between any two nodes is 2 km (6560 ft). The 3972 is a slave device on the highway and receives its commands from a 2960-series Interconnect Highway Driver. CAMAC transactions are initiated either by manipulating registers on the 3972 or by triggering a list of operations from an on-board, 32K x 32 command memory. The contents of this RAM allow the generation of single, block, and in-line CAMAC I/O functions. Q-Scan, Q-Stop, Q-Repeat, and Q-Ignore modes of operations are selected on a command-by-command basis. Non-CAMAC elements in the command memory can specify loop counts, perform conditional branches based on the value of these counts, generate unconditional jumps, and cause demand messages to be sent on the GI.

The command list can be triggered from an external source (a TTL-level signal applied to the 3972's front panel connector), by the assertion of a CAMAC Look-at-Me (LAM) signal on the Dataway, or by an internal, crystal-controlled, programmable timer. LAM signal triggers, when enabled, point to a fixed location jump table at the start of the command memory. The programmable timer enables the selection of frequencies from 0.06 Hz to 500 kHz in 1 μ s increments. Additionally, multi-rate data acquisition can be accomplished through the use of inner and outer loops in the command list. Command loops may be nested to 16 levels deep.

CAMAC data buffering in both the read and write data paths allow read and write commands to be mixed in the command memory. The write-data First-In-First-Out (FIFO) memory is a 2 kbyte memory. The read-data memory is 4 kbyte FIFO and may be expanded to 4 Mbytes using the multi-buffer option. The multi-buffer options of the 3972 are triple-width CAMAC crate controllers that allow many CAMAC read-data words to be read prior to transmission to the host computer.

A 24-bit LAM mask is included to simplify host processor software. Selected LAMs are priority encoded and, if enabled, cause Demand messages to be sent on the GI. The Demand ID sent on the GI is the priority encoded value of the selected LAMs.

FUNCTION CODES

Command	Action
F(0)•A(0)	Reads Data Memory
F(0)•A(1)	Reads Command Memory
F(0)•A(2)	Reads Command Memory Address
F(1)•A(0)	Reads the Control/Status register
F(1)•A(1)	Reads the LAM pattern bits
F(16)•A(0)	Writes Data Memory
F(16)•A(1)	Writes Command Memory
F(16)•A(2)	Writes Command Memory Address
F(17)•A(0)	Writes the Control/Status register
F(17)•A(1)	Writes the LAM Mask register

POWER REQUIREMENTS

+6 Volts:	-Z1A	7.2 A
	-Z1B	9.5 A
	-Z1C	9.6 A
	-Z1D	10.9 A

ACCESSORIES

Model V160-Xxxx	Interconnect VXI Slot-0 Controller
Model 2960-Zxx	EISA Interconnect Highway Driver
Model 2961-Zxx	VME Interconnect Highway Driver
Model 2962-Zxx	PCI Interconnect Highway Driver
Model 5802-Lxxx	Cable--50 um Fiber-optic
Model 5802-Nxxx	Cable--62.5 um 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
3972-Z1A	Interconnect CAMAC Crate Controller
3972-Z1C	Interconnect CAMAC Crate Controller with 4 Mbyte Memory
3972-Z1D	Interconnect CAMAC Crate Controller with 8 Mbyte Memory

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