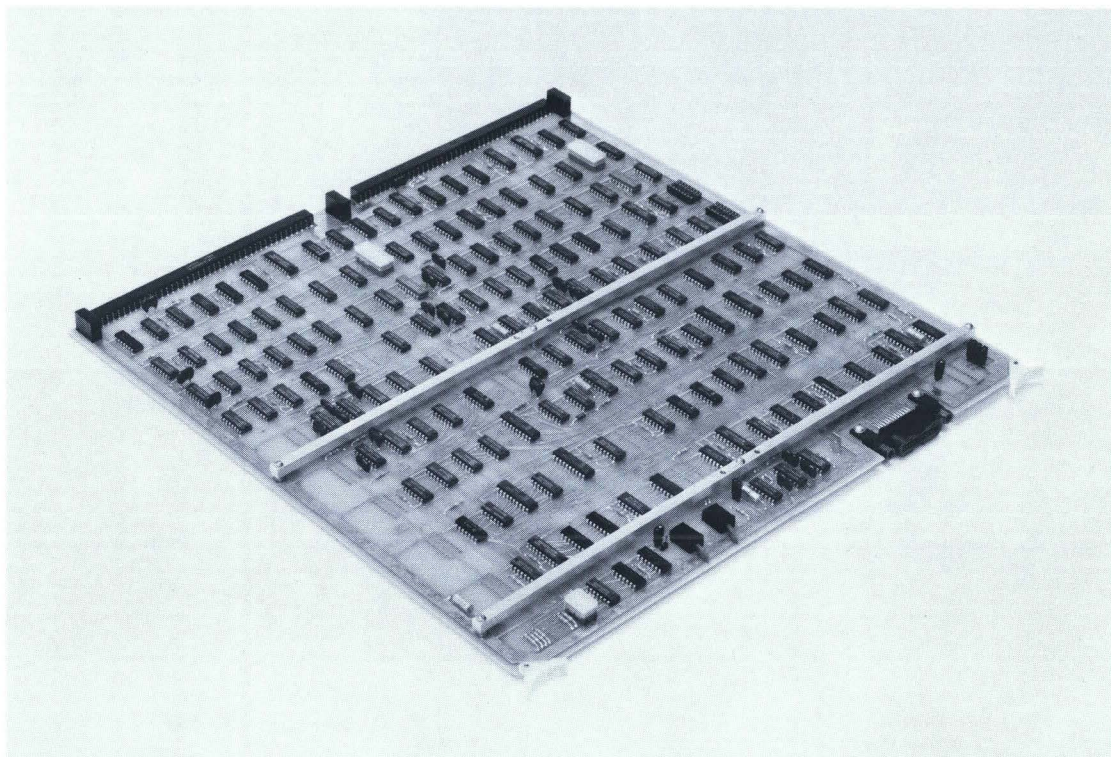# PERKIN-ELMER

IEEE 488 BUS ADAPTER

Product Description

The Perkin-Elmer IEEE (Institute of Electrical and Electronics Engineers) 488 Bus Adapter provides an interface for the industry-standard IEEE 488 bus system to a P-E host computer. This adapter eliminates the need for individual or custom interfaces and controllers to utilize IEEE bus-compatible peripherals.

The P-E IEEE 488 Bus Adapter allows systems to use equipment such as color plotters, precision measurement devices, floppy disk subsystems, special-purpose printers, digital clocks, and other computers. The adapter supplies a high-speed communications link for a network of processors with facilities superior to a RS-232 data link.

IEEE 488 bus is separate from the P-E processor and is accessed through four ports on the interface board: the Controller, the Auxiliary Control, the Talker, and the Listener.

IEEE 488 commands are used to permit a variety of control actions. These actions are: (1) initializing the bus, (2) initializing selected devices, (3) enabling and disabling of front panel controls of devices, (4) triggering a group of devices simultaneously, (5) recognizing interrupts from devices, (6) polling devices for interrupt cause, and (7) passing control to another controller. These functions are performed through the controller on the IEEE Bus Adapter.

The IEEE Bus Adapter contains special features under its Auxiliary Control port which allow processor-to-processor communications. When two processors are utilized (a master and a slave), the master can command an initialization of the slave by transmitting an IEEE 488 "device clear" command. The master can also generate interrupts in the slave by using the IEEE 488 "device trigger" command. The slave can use its Auxiliary Control to respond to status polls from the master and generate interrupts in the master.

Features	■ Conforms to IEEE STD 488-1978. ■ Provides P-E processor with Controller, Talker and Listener capabilities. ■ Transfers data at rates up to 1mb/sec. ■ Includes facilities for interprocessor communication, including the ability to down-load a satellite processor. ■ Operates with Multiplexor and Selector Channel buses. ■ Includes integral IEEE 488 connector. ■ Conforms to standard P-E fullboard size. ■ Requires only +5 volts. ■ Supports 10-bit addressing. ■ Performs complete self-testing. ■ Is compatible with Series 3200 SELCH.

Product Characteristics

The IEEE 488 bus is capable of high data transfer rates. One megabyte/per second is possible over short bus lengths and at least a 0.25 megabyte/second rate is achieved over the maximum bus length of 20 meters (65.7 feet). A Talker and Listener are placed on the interface board to facilitate SELCH control.

The IEEE 488 can be used in a multiprocessor communications network. The processor whose IEEE 488 Controller is the current bus controller selects the Talker and Listener(s) for each data exchange. The current Controller is responsible for handling interrupts and conducting polls. Control of the bus may be passed between IEEE 488 Bus Adapters.

The Controller and Auxiliary Control are placed on the interface board to facilitate MUX bus control. Each side of the board is addressed separately and responds to an even/odd pair of processor I/O addresses.

Ten-bit MUX and SELCH Bus addressing is supported. The IEEE 488 bus address is factory set at X'00', indicating a physical address, but it can be changed through a DIP switch.

Other options on the interface board include "request system control" (RSC) and "parallel poll response," both of which are set with jumpers. When RSC is enabled, the IEEE 488 Bus Adapter takes initial control of the bus under processor direction. "Parallel poll response" indicates on which bit the IEEE Bus Adapter is to respond to a parallel poll.

Specifications
Power

Current: 2.4 amperes (maximum)
@ V: 5.0 volts

Failure Rate:
MTBF of 8000 power-on hours
MTTR is 30 minutes

Environmental

Operating Temperature: 0° to 50°C
(32° to 122°F)
Storage Temperature: −40° to 85°C
(−6.2° to 185°F)
Operating Humidity: 5 to 90%
(non-condensing)

Dimensions

Height: 13.5 mm (0.53 in. max. above board)
Width: 381 mm (15 in.)
Depth: 381 mm (15 in.)
Weight: 1.36 kg (3 lbs.)

Product Numbers

K59-200   IEEE 488 Bus Adapter, including driver, FORTRAN subroutine package, and FORTRAN test program. Cables are available separately.

Related Products

Cables in various lengths are available separately by special quote from Systems Development.

The information contained herein is intended to be a general description and is subject to change with product enhancement.

PERKIN-ELMER

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