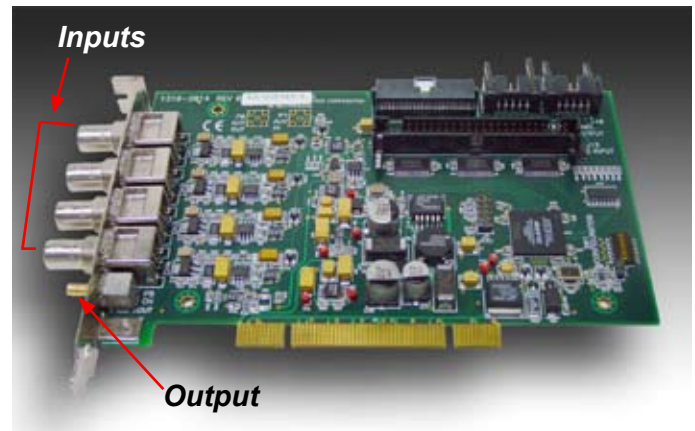


Acoustic Emission Multiplexer

The AE Multiplexer is a system used to multiplex four (4) AE inputs onto a single output. The Multiplexer board is placed in any system with a free one half-size PCI slot. It is controlled using AEWin™ software or a manual control for selecting one of the channels. The system operates along with any of the PAC AE data acquisition cards or as a stand-alone unit. Powered through the PCI slot, it generates the necessary voltages to power the sensors. Multiple Multiplexer boards can also be combined inside one chassis to create a larger system that can be located away from the AE Data Acquisition card and controlled via external control cable. For example, 8 of these Multiplexer boards can be coupled to one 8 channel PCI-8 board to form 4 banks of 8 channels or a 32 channel multiplexed system. The cost of the multiplexer board is much less than an AE board, thereby saving cost.

Features

- 4:1 Mux with 4 BNC inputs and 1 SMB output
- PCI slot mounting
- AEWin™ or Manual Control
- Independent Sensor Power with AST
- Input protection
- Seamless System Integration
- Excellent for leak detection applications



Electrical Specifications

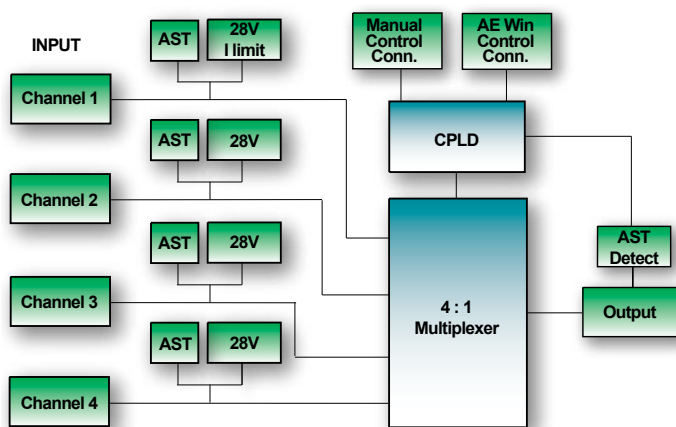
- Gain: 0 dB
- Bandwidth: 3 kHz - 5 MHz
- Input Impedance: 50 ohms
- Dynamic Range: 20 V p-p into 50 ohms
- Sensor Power: 28 V Phantom Power

Physical Specifications

- Size (L x H x W): 6.7" x 4.8" x 0.7"
17.0 cm x 12.2 cm x 1.8 cm

Environmental Specifications

- Operating Temperature: 0° to +65° C



The figure to the left shows a functional block diagram of the AE Multiplexer. The 4 channel inputs come through each of the BNC connectors on the PC back plate of the board, and the single output SMB connector also located on PC plate (note the right side of the figure). The channel selection commands come through on either the manual I/O inputs or from AEWin™ and a Digital I/O board and are processed by the CPLD (programmable logic array). The CPLD then controls the 4:1 Mux, which performs the actual channel selection. If the control is done manually, the CPLD can also report the position of the manual switch to the AEWin program. Additionally, the CPLD detects if an AST pulse is present on the output connector, and if so, it recreates the same AST pulse on the selected input channel. The current limited sensor power is also controlled and turned on at the appropriate time by the CPLD.



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